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U. S. DEPARTMENT OF THE INTERIOR

PROTOTYPE OIL SHALE LEASING PROGRAM

OIL SHALE TRACT C-b

DEVELOPMENT MONITORING REPORT #1

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(April 1978 through September 1978)

Submitted to:

Mr. Peter A. Rutledge
Area Oil Shale Supervisor
Conservation District
U. S. Geological Survey
Grand Junction, Colorado

By:

C-b SHALE OIL VENTURE

ASHLAND COLORADO, INC.
OCCIDENTAL OIL SHALE, INC., OPERATOR

JANUARY 15, 1978

TABLE OF CONTENTS BY VOLUME NUMBER

VOLUME NUMBER	TABLE OF CONTENTS
I	INTRODUCTION
	I. PRE-EXPLORATION ENVIRONMENTAL RECONNAISSANCE SURVEYS
	II. ENVIRONMENTAL DEVELOPMENT MONITORING PROGRAMS
	A. Hydrology and Water Quality
	1. Surface Streams
	2. Springs and Seeps
	3. Ground Water
	B. Air Quality
	1. Air Quality and Surface Meteorology
	2. Low Altitude Meteorology
	3. Upper Air Studies
	4. Visibility
	5. Noise
	6. Atmospheric Diffusion Studies
	7. Particulate Analysis
	8. Trace Metals (Inactive)
	9. Inversion Studies
	10. Tethersonde Soundings
	11. Air Quality Assurance
II, III	References
III	C. Biology
	1. Terrestrial Wildlife Studies
	2. Aquatic Studies
	3. Terrestrial Vegetation Studies
	4. Soil Survey and Productivity (Inactive)
	5. Dendrochronology and Dendroclimatology (Inactive)
	III. OTHER STUDIES
	A. Fish and Wildlife Management Plan (Inactive)
	B. Revegetation Studies (Inactive)
	C. Microenvironmental Studies
	D. Tract Photography
	1. Surface
	2. Aerial
	E. Archaeological Studies
	F. Scenic Values Study (Inactive)
	G. Industrial Health and Safety
	H. Geology
	IV. DATA AUTOMATION
	A. Coordinate Reference System
	B. Automation Status and Schedule

REFERENCES

The first eight references are monthly data reports prepared and submitted to C-b Shale Oil Venture, Grand Junction, Colorado, 81501 by AeroVironment, Inc., 145 Vista Avenue, Pasadena, California, 91107.

The remaining four references are monthly data reports prepared by Occidental Oil Shale, Inc., P.O. Box 2687, Grand Junction, Colorado, 81501

1. Volume I - February 1978 Data
2. Volume II - February 1978 Data
3. Volume I - March 1978 Data
4. Volume II - March 1978 Data
5. Volume I - April 1978 Data
6. Volume II - April 1978 Data
7. Volume I - May 1978 Data
8. Volume II - May 1978 Data
9. Volume I - June 1978 Data
10. Volume I - July 1978 Data
11. Volume I - August 1978 Data
12. Volume I - September 1978 Data

Corrections to data previously submitted by AeroVironment are listed in the Data Corrections section.

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Final Submission

AIR QUALITY DATA

PROTOTYPE OIL SHALE LEASE TRACT C-b

Volume I

February 1978 Data

Submitted 6 June 1978

AeroVironment Inc.
145 Vista Avenue
Pasadena, California 91107

PREFACE

This volume is the final submission acquired during the air quality/ meteorology portions of the monitoring program for oil shale tract C-b. The period covered runs from 1 February through 28 February 1978.

This report is divided into two volumes. Volume I contains all of the basic data (hourly averages). Volume II contains all of the computer analysis reports.

TABLE OF CONTENTS

SECTION 1.0 - General

1.1 Introduction
1.2 Description of Instrument Systems

  1.2.1 Air Quality Instrumentation
  1.2.2 Air Quality Equipment Calibration Procedure
  1.2.3 Data Acquisition System
  1.2.4 Meteorological Instruments

1.3 Data Description

  1.3.1 Description of Data Tables
  1.3.2 Data Acceptance Algorithm
  1.3.3 Data Precision and Lower Detection Limit
  1.3.4 Data Listing

1.4 Descriptive Regional Meteorological Summary

SECTION 2.0 - Meteorology

2.1 Hourly Average Data Tabulations for All Sites in Order by Site Number

  2.1.1 Wind Speed, (WS2-4), 10 m, 30 m, 60 m
  2.1.2 Wind Direction (WD2-4), 10 m, 30 m, 60 m
  2.1.3 Bivane Wind Speed (BWS1, 3), 10 m, 60 m
  2.1.4 Bivane Horizontal Wind Direction (BHD1, 3), 10 m, 60 m
  2.1.5 Bivane Vertical Wind Direction (BVD1, 3), 10 m, 60 m
  2.1.6 Root-Mean-Square Deviation in Wind Direction (Sigma Theta, STH2-4), 10 m, 30 m, 60 m
  2.1.7 Root-Mean-Square Deviation in Bivane Horizontal Wind Direction (Bivane Sigma Theta, BST1, 3), 10 m, 60 m
  2.1.8 Root-Mean-Square Deviation in Bivane Vertical Wind Direction (Bivane Sigma Phi, BSP1, 3), 10 m, 60 m
  2.1.9 Temperature (T2-4), 10 m, 30 m, 60 m
  2.1.10 Lapse Rate (Delta T, DT2) 60 m-10 m
  2.1.11 Relative Humidity (RH1), 10 m
  2.1.12 Barometric Pressure (BARP)
  2.1.13 Solar Radiation (SOLR)
  2.1.14 Mixing Height (MIX)
  2.1.15 Inversion Height (INV)
  2.1.16 Stability Type (STB1, 2) 50 m, 200 m

2.2 Miscellaneous Data

  2.2.1 Double Theodolite (Wind Speed, Wind Direction, and Temperature versus Altitude)

SECTION 3.0 - Air Quality

3.1 Hourly Average Data Tabulations for All Sites in Order by Site Number

- 3.1.1 Hydrogen Sulfide (H_2S)
- 3.1.2 Sulfur Dioxide (SO_2)
- 3.1.3 Total Hydrocarbons (THC), expressed as $\mu g/m^3$ of CH_4
- 3.1.4 Methane (CH_4)
- 3.1.5 Hydrocarbons (methane-reduced) ($HC = THC - CH_4$), expressed as $\mu g/m^3$ of CH_4
- 3.1.6 Carbon Monoxide (CO)
- 3.1.7 Nitrogen Oxides (NO_x), expressed as $\mu g/m^3$ of NO_2
- 3.1.8 Nitric Oxide, NO
- 3.1.9 Nitrogen Dioxide (NO_2)
- 3.1.10 Ozone (O_3)

3.2 Miscellaneous Data

- 3.2.1 High Volume Sampler, Suspended Particulates

Not all sites measure all of these parameters.

SECTION 1.0

GENERAL

1.0 GENERAL

1.1 Introduction

AeroVironment Inc. is performing an air quality and meteorological measurement program on the C-b shale oil tract for C-b Shale Oil Venture. Various parameters of air quality and meteorological data are collected at a network of sites. A listing of data collected during this month is contained in Section 1.3.

1.2 Description of Instrument Systems

1.2.1 Air Quality Instrumentation

The ambient air sample is drawn in through a glass cane and manifold supplied by the Ace Glass Company. The system has a 25 mm diameter, through which an air flow is provided by an air pump rated at 60 cfm. The manifold has sampling ports to which 1/4" teflon lines are connected to the air quality instruments. All joints in the sampling system are secured by O-ring compression fittings. The following are the air quality instruments used:

- Oxides of Nitrogen

Oxides of nitrogen were measured by use of a Monitor Labs Model 8440E analyzer. Operating on the chemiluminescent principle, this dual-channel analyzer continuously monitored both NO_x and NO. The NO_2 value was calculated by the off-site computer by subtracting the NO value from the NO_x value. This instrument had a lower detection limit of 2 parts per billion (ppb) and a linearity of ± 1%.

- Sulfur Dioxide

Sulfur dioxide is continuously measured with a Meloy Model SA185-2A sulfur analyzer equipped with a Meloy Model H_2S-1 hydrogen sulfide

scrubber. This instrument utilizes the principle of flame photometric detection (FPD) for operation. It is designated by EPA as an equivalent instrument. The instrument has a lower detection limit of 5 ppb and a linearity of ± 1%.

- Hydrogen Sulfide

Hydrogen sulfide is monitored continuously by using a Meloy Model SA185-2 equipped with a Meloy Model SO_x-1 sulfur dioxide scrubber. It also utilizes the FPD principle, and its lower detection limit is 5 ppb and linearity ± 1%.

- Ozone

Ozone is measured continuously by using a Meloy Model OA350 analyzer. Based on the chemiluminescent principle, it has a lower detection limit of 1 ppb and a linearity of ± 1%.

- Hydrocarbons and Carbon Monoxide

Total hydrocarbons, methane, and carbon monoxide are monitored by use of a Bendix Model 8200 analyzer. This instrument utilizes the gas chromatography-flame ionization detection principle, and measures each parameter once every five minutes. The non-methane hydrocarbon value is obtained by subtracting the methane value from the total hydrocarbon value. This instrument has a lower detection limit of 100 ppb for all three components.

- Total Suspended Particulates

A General Metal Works Model 2000 high volume sampler and glass fiber filter paper are employed to collect the ambient air total suspended particulates. The high volume sampler is turned on and off by a timer, once every three days, from midnight to midnight. Thus, a 24-hour integrated sample is collected.

The glass fiber filter paper is conditioned in a humidity controlled chamber for at least 24 hours before it is weighed. This procedure applies to both before and after it is exposed to the ambient air. The weighing is carried out by using a Torbal Model EA-1-AP balance.

A Dickon recorder is used to record the high volume sampling flowrate throughout the 24-hour sampling period.

1.2.2 Air Quality Equipment Calibration Procedures

- Daily Zero and Span Check

A Meloy Model RAD-1 calibration unit is used to perform the daily zero and span check on the NO/NO_x, SO_2, and H_2S analyzers. This instrument provides a zero air supply, SO_2 span gas from an SO_2 permeation tube, and NO span gas obtained by precisely diluting bottled NO span gas. The zero and span checks of all instruments are manually performed once a day. Each instrument is first switched to zero and the zero value is recorded on the multipoint chart recorders. After a stable zero signal has been obtained, a gas span is supplied to each channel until a stable span value has been reached. This value is recorded on the multipoint chart recorders. Both the zero and span values should be within the tolerance limit specified; otherwise, the analyzer is recalibrated. The instruments are then returned to the monitor mode.

The bottled NO span gas used for this purpose was obtained from Precision Gas Products. The SO_2 permeation tubes were manufactured by Metronics Associates, Inc.

The Model OA350 ozone analyzer has its own calibration system, which provides a zero check and a span check. The zero and span check is also done manually once a day.

The Model 8200 total hydrocarbon, methane, and carbon monoxide analyzer is calibrated with undiluted span gas obtained from AirCo's Rare and Specialty Gas Division. This span gas contains methane and carbon monoxide in air; the methane being used to calibrate both the total hydrocarbon channel and the methane channel. The Model 8200 is zeroed with air from a Bendix Model 8834 zero air unit. In addition, the instrument is electronically re-zeroed at the start of every five-minute cycle.

- Multi-Point Calibration

Monthly multi-point calibrations of all air quality instruments are performed. The purpose of the monthly calibration is two-fold: 1) to check the instrument linearity, and 2) to assign the values of the on-site calibration sources so that they are NBS traceable.

The air quality instruments for SO_2, H_2S, O_3, and NO/NO_x are dynamically calibrated by use of a Monitor Labs Model 8500 Dynamic Calibration System. This calibrator utilizes the permeation principle for SO_2 and H_2S, ozonation of air for ozone, and dilution of concentrated NO to ambient level NO, and can perform gas phase titration of NO and O_3 for NO_2 calibrations. It is capable of producing stable concentrations for the purpose of calibration of the instruments. For the $THC/CH_4/CO$ instruments, three cylinders of gases containing approximately 0, 4, and 8 ppm of CH_4 and CO are used to calibrate the analyzers.

The calibrator's SO_2 permeation tube output is calibrated quarterly by using the EPA-prescribed pararosaniline method (Federal Register, Vol. 36, No. 84, Part II, April 30, 1971); H_2S output by the cadmium hydroxide stractan method (Intersociety Committee, American Public Health Association, Washington, D.C., 1972); and O_3 output by the EPA-prescribed 1% neutral buffered potassium iodide (NBKI) method (Federal Register, ibid). The concentrated NO cylinder used (~100 ppm) is NBS traceable, and the traceability is maintained by re-analyzing the cylinder once every six months by using an NBS cylinder. The dilution system of the calibrator is checked once every three months by using an NBS traceable test meter. The NO dilution output from the calibrator is further calibrated quarterly by use of the Saltzman method (Intersocity Committee, ibid).

Cylinders used to calibrate THC/CH_4/CO instruments are NBS traceable. The traceability is maintained by re-analyzing the cylinders once every six months by using an NBS cylinder.

The high volume sampler is calibrated monthly by use of a set of resistance plates which, in turn, is calibrated by using an NBS traceable Roots Meter once a year. The balance used for weighing glass fiber filters is calibrated quarterly by using a set of NBS traceable weights.

1.2.3 Data Acquisition System

Esterline Angus Model E1124E multipoint chart recorders are used as primary recording means to monitor data. The EA chart recorder logs data at 2-1/2-minute intervals. The data reflects the real time value at that instant.

1.2.4 Meteorological Instruments

- Site 023

The meteorological tower itself is a 60-meter Rohn Model 80 Guyed Tower, designed for 40 pounds per square foot wind load with 1/2" of radial ice per EIA Standard RS-222-B, to support four levels of meteorological equipment. The material consists of tower sections with a tapered base, three retractable booms 12 feet long, three outside work platforms, an inside ladder for climbing, two base ground kits, and one anchor ground kit. The cable-type Safety Climbing Device consists of a cable and attachment mechanisms with a locking sleeve and safety belt. The tower is lighted and painted according to FAA specification.

All instrumentation, except at the ground level, is mounted at the end of 12-foot retractable booms. These booms are 3-inch box beams which are on rollers and can be retracted to the instrument platforms for instrument maintenance.

The tower has instrumentation at three levels: 10 m, 30 m, and 60 m. There were wind speed and direction sensors at all three levels, and temperature, σ_θ and σ_ϕ at the 10 m and 60 m levels. Relative humidity, solar radiation and barometric pressure sensors are at the ground level. Temperature difference thermistors and their associated circuitry took lapse rate measurements for the 10 m to 60 m layer.

Wind Speed and Direction

The wind direction and speed apparatus used at each measurement level of the tower is the Model 1074-2 wind sensor by Meteorological Research, Inc. (MRI). This sensor has a 540° potentiometer for wind direction and a light chopper for wind speed. This sensor is rugged, with an all-weather cup and damped vane assembly. The wind sensors on the tower have been specially treated with a black paint which will promote warming of the exposed surfaces of the sensor and thereby reduce ice and snow accumulations on the moving parts of the apparatus. The specifications on the Model 1074-2 are as follows:

Wind Speed

- Starting Threshold: 0.75 mph.
- Response Distance: 18 feet (63% recovery)
- Flow Coefficient: 7.9 feet/Revolution
- Precision: ± 0.4 mph or 1% (whichever is greater)

Wind Direction

- Starting Threshold: 0.75 mph
- Delay Distance: 4 feet (50% recovery)
- Damping Ratio: 0.5 to 0.6
- Precision (540° system): ± 1%
- Range: 0° to 540°

Temperature

The temperature sensors are mounted within a power-aspirated radiation shield at each tower level. All aspirators and sensors are of the Model T621-TP18X by Weathermeasure. The aspirated shielded housing is designed to provide maximum radiation protection to the sensor. The temperature sensor provides a linear resistance change with an air temperature change. The specifications on the sensing elements are as follows:

- Precision: $\pm 0.2^\circ C$
- Range: $-50^\circ C$ to $+50^\circ C$

Delta Temperature

Measurements of temperature differences (ΔT) are taken for the 10 m to 60 m layer by using the MRI Model 840 systems. Both of the ΔT thermistors are mounted within power-aspirated radiation shields. The specifications on the ΔT equipment are as follows:

- Precision: $\pm 0.2^\circ C$
- Range of ΔT Circuit: $-5^\circ C$ to $+5^\circ C$

Sigma Theta, Sigma Phi

σ_θ and σ_ϕ were measured by using the R. M. Young 21003 Gill Anemometer Bivane. The specifications are as follows:

- Precision: $\sigma_\theta - \pm 1^\circ$
  $\sigma_\phi - \pm 1^\circ$
- Range: $\sigma_\theta - 0 - 255^\circ$ (values computed by on-site computer)
  $\sigma_\phi - 0 - 64^\circ$

Relative Humidity

The relative humidity is monitored by using a WeatherMeasure H324-S hair hygrograph. It uses the time-tested human hair bundle as the sensor for relative humidity. The precision and range are as follows:

- Precision: ± 1% from 20% to 80%; ± 3% at extremes
- Range: 0-100%

Barometric Pressure

The barometer is the B242 Analog Output Barometer by WeatherMeasure. This barometer provides an output voltage that is linearly proportional to pressure. The specifications on the instrument are as follows:

- Precision: ± 1 mm Hg
- Range: 550-627 mm Hg

Solar Radiation

The pyranometer at the site is the Eppley Precision Spectral Pyranometer. This instrument is used for the measurement of sun and sky radiation totally or in defined wavelength bands. The pyranometer is levelled and mounted atop a wooden stand 1 meter from the ground surface. Care has been taken to eliminate the effects from all outside influences, such as reflection or shadows, on the pyranometer. The instrument characteristics are as follows:

- Precision: ± 0.05 cal/cm^2/min
- Range: 0-2 cal/cm^2/min

- Site 020

Wind Speed and Direction

The wind speed and direction apparatus used is the Model W1034 Low Threshold Recording Wind System by WeatherMeasure. The specifications are as follows:

Wind Speed

- Starting Threshold: 0.6 mph
- Distant Constant: 5 feet
- Precision: ± 0.2 mph or 1% (whichever is greater)

Wind Direction

- Starting Threshold: 0.75 mph
- Distance Constant: 3.5 feet
- Precision: ± 1° or 0.5% (whichever is greater)

Temperature

Same as described under Site 023, Temperature.

Mixing Height, Inversion Height, and Stability Type

An AeroVironment Model 300A acoustic radar is employed for the continuous measurement of the atmospheric mixing height, inversion height, and stability type. An acoustic enclosure is used to surround the antenna and thereby reduce any spurious noise received in the antenna side lobes. The specifications of the acoustic sounder are as follows:

- Precision: ± 10 m
- Range: 30-500 m

A value of "OS" on the data sheets indicates that the mixing height is at least 500 meters (the full scale of the instrument).

- Sites 042 and 056

Wind Speed and Direction and Temperature

The wind speed, wind direction, and temperature equipment employed is the Model 1071 Mechanical Weather Station manufactured by Meteorology Research. The equipment specifications are as follows:

Wind Speed

- Starting Threshold 0.75 mph
- Response distance: 18 ft (63% recovery)
- Flow Coefficient: 7.9 ft/revolution
- Precision: ± 2%

Wind Direction

- Starting Threshold: 0.75 mph
- Delay Distance: 4 ft (50% recovery)
- Damping Ratio: 0.5 to 0.6
- Precision: ± 1% of full scale
- Range: 0° to 540°

Temperature

- Precision: ± 2°C
- Range: -35°C to 49°C

- Miscellaneous

Upper Air Wind Speed and Direction, and Temperature

The upper air wind speed and direction as a function of altitude are measured by tracking a pilot balloon by use of the double-theodolite technique. The theodolites used are manufactured by Warren-Knight. The specifications are as follows:

- Precision: ± 0.1° (elevation)
  ± 0.1° (azimuth)
- Range: 0-90° (elevation)
  0-360° (azimuth)

The upper air temperature as a function of altitude is obtained by attaching a temperature-sonde to a pilot balloon, and the signal transmitted from the temperature-sonde is monitored by using a radio receiver. The temperature-sonde is manufactured by Aeromet. The specifications are as follows:

- Precision: ± 0.4°C (-40 to -5°C)
  ± 0.2°C (-5 to 80°C)
- Range: -40 to +80°C

The radio receiver is also manufactured by Aeromet. Its specifications are as follows:

- Precision: ± 0.2°C
- Range: -50 to +50°C

- Calibration

Calibration of meteorological equipment is done off-site. The wind sensors are calibrated by use of an NBS traceable wind tunnel, the temperature sensors by use of an NBS traceable thermometer, and the pressure sensors by use of an NBS traceable mercury barometer. The relative humidity sensor is calibrated by using a sling psychrometer.

Daily check of the meteorological equipment is performed by comparing the monitored data with that of the local weather service when applicable. Also, the data obtained from the different levels of the 60-meter tower is compared for consistency check.

1.3 Data Description

1.3.1 Description of Data Tables

The data tabulations contain average values for each day, and the peak hourly average for the day. Along the bottom, the average for each hour, averaged over the month, is compiled. For these particular averages, there is no minimum data requirement (those averages are contained in Volume II). If a substantial amount of data is missing for any reason, the averages would be biased. Air quality is given in $\mu g/m^3$ usually, with values for NO_x computed on the basis of the molecular weight of NO_2, and those for HC and THC based on the molecular weight for CH_4.

On the wind direction sheets, "PV" and "PREV" indicate prevailing wind direction divided into 16 sectors with a "1" indicating a prevailing direction between 348.5 and 11.0 degrees, a "2" corresponding to 11.5 to 34.0 degrees, and so forth. (i.e., a "1" indicates wind from the 22.5^o sector centered on N, a "2" indicates winds generally from the NNE, and "3" from the NE, etc.

Symbols used on the data sheets are:

CA	Calibration
MT	Maintenance (changing paper, tape, filters)
FO	Flame out (on the gas chromatographs)

IM	Instrument malfunction
PF	Power failure (generator failure, power outages)
RF	Recording system failure (chart jams, runs out, tape cassette fails, on-site computer goes down)
LI	Local interference (Car nearby, contamination by generator)
OS	Off scale (data not visible, within range of instrument/recorder; data presumed monitored)
SE	Special experiment (instrument off-line for bag sample analysis or removed for special measurements in area)
VA	Variable wind direction
IN	Interference (CO_2 interference on sulfur data, SO_2 interference in oxidant readings)
NV	Not visible

See the attached example sheets.

1.3.2 Data Acceptance Algorithm

The EA chart recorder logs data once every 2-1/2 minutes giving about 24 values per hour. Strip chart data is considered to represent the hour if more than 30 minutes of the record is valid.

Data collected in the first 15 minutes after calibration is generally discarded. Data is considered erroneous if any of the status indication or the station log suggests instrument malfunctioning. In addition, air quality data collected in the first 15 minutes after a brief power outage (less than 10 minutes), in the first hour after a medium duration outage (up to one hour), or in the first four hours after longer outages, will be discarded as unreliable. Any anomalous data reflecting signal spikes or dropouts with a response rate faster than ascribable to atmospheric phenomena (e.g., a tripling of NO_x levels from one scan to the next, followed by a return to the old level on the succeeding scan) will be deleted as an artifice caused by the system.

As an additional check, the calibrated data is also screened manually. First, data is scanned to detect extreme values. When a spurious value is located, it will be checked for its validity. In all cases when invalidated data is deleted, a record of these deletions is maintained. Only the validated data will be reported.

1.3.3 Data Precision and Lower Detection Limit

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
	Air Quality			
SO_2	Meloy SA185-2A	10 µg/m^3	15 µg/m^3	15 µg/m^3
H_2S	Meloy SA185-2	6 µg/m^3	6µg/m^3	6 µg/m^3
NO	Monitor Labs 8440E	2 µg/m^3	5 µg/m^3	5 µg/m^3
NO_x	Monitor Labs 8400E	4 µg/m^3	5 µg/m^3	5 µg/m^3
NO_2	NO_x - NO	4 µg/m^3	6 µg/m^3	6 µg/m^3
THC	Bendix 8200	70 µg/m^3	70 µg/m^3	70 µg/m^3
CH_4	Bendix 8200	70 µg/m^3	70 µg/m^3	70 µg/m^3
NMHC	THC - CH_4	70 µg/m^3	90 µg/m^3	90 µg/m^3
CO	Bendix 8200	0.1 mg/m^3	0.1 mg/m^3	0.1 mg/m^3
O_3	Meloy OA 350-2	2 µg/m^3	20 µg/m^3	20 µg/m^3
TSP	GMWC-2000H	0.5 µg/m^3	6% or 1 µg/m^3*	1 µg/m^3
	Meteorology			
Wind Speed	MRI 1074-2 (Site 023, 10m, 30m, 60m)	0.5 m/s	1% or 1 m/s*	1 m/s
	MRI 1071 (Site 042, 056)	0.5 m/s	2% or 1 m/s*	1 m/s
	Weathermeasure W1034 (Site 020)	0.5 m/s	1% or 1 m/s*	1 m/s
	R.M. Young Bivane 21003	0.2 m/s	1 m/s	1 m/s
Wind Direction	MRI 1074-2 (Site 023, 10m,30m,60m)	N/A	1%	N/A
	MRI 1071 (Site 042, 056)	N/A	5°	N/A

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
Meteorology (Cont'd)				
Wind Direction	Weathermeasure W1034 (Site 020)	N/A	1°	N/A
	R.M. Young Bivane 21003	N/A	1°	N/A
Temperature	Weathermeasure T621-TP18X (Site 023)	-50°C	1°C	-50°C
	MRI 1071 (Site 042,056)	-35°C	1°C	-35°C
Delta Temperature	MRI 840	N/A	0.2°C	N/A
σ_θ	R.M. Young 21003 Gill Anemometer	N/A	1°	N/A
σ_ϕ	R.M. Young 21003 Gill Anemometer	N/A	1°	N/A
Relative Humidity	Weathermeasure H324-S	0%	1% (20-80%) 3% (at extremes)	3%
Barometric Pressure	Weathermeasure B 242	462 mm Hg	1 mm Hg	462 mm Hg
Solar Radiation	Eppley Spectral Pyranometer	0 cal/cm^2/min	0.05 cal/cm^2/min	0.05 cal/cm^2/min
Mixing Height Inversion Height Stability Type	AV 300A Acoustic Radar	30 m	10 m	30 m

*whichever is greater

1.3.4 AV Nomenclature for Components

Abbreviation (alphabetical order)	Component
BARP	Barometric Pressure
BHD1	Bivane Horizontal WD at level 1 (10 m/30 ft.)
BHD3	Bivane Horizontal WD at level 3 (60 m/200 ft.)
BSP1	Bivane Sigma Phi at level 1 (10 m/30 ft.)
BSP3	Bivane Sigma Phi at level 3 (60 m/200 ft.)
BST1	Bivane Sigma Theta at level 1 (10 m/30 ft.)
BST3	Bivane Sigma Theta at level 3 (60 m/200 ft.)
BVD1	Bivane Vertical WD at level 1 (10 m/30 ft.)
BVD3	Bivane Vertical WD at level 3 (60 m/10 ft.)
BWS1	Bivane Wind Speed at level 1 (10 m/30 ft.)
BWS3	Bivane Wind Speed at level 3 (60 m/200 ft.)
CH4	Methane
CO	Carbon Monoxide
DT2	Delta T#2 (Temperature at 60 m - Temperature at 10 m)
HC	Hydrocarbons (corrected for methane)
H2S	Hydrogen Sulfide
INV	Invension Height
MIX	Mixing Height
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOX	Oxides of Nitrogen
O3	Ozone
PART	Particulates (24 hour average)
RH1	Relative Humidity at level 1 (1 m/3 ft.)
SOLR	Solar Radiation (sky only)
SO2	Sulfur Dioxide
STB1	Stability Type at level 1 (50 m)
STB2	Stability Type at level 2 (200 m)

STH2	Sigma Theta at level 2 (10 m/30 ft.)
STH3	Sigma Theta at level 3 (30 m/200 ft.)
STH4	Sigma Theta at level 4 (60 m/200 ft.)
TEM2	Temperature at level 2 (10 m/30 ft.)
TEM3	Temperature at level 3 (30 m/100 ft.)
TEM4	Temperature at level 4 (60 m/200 ft.)
THC	Total Hydrocarbons
WD2	Wind Direction at level 2 (10 m/30 ft.)
WD3	Wind Direction at level 3 (30 m/100 ft.)
WD4	Wind Direction at level 4 (60 m/200 ft.)
WS2	Wind Speed at level 2 (10 m/30 ft.)
WS3	Wind Speed at level 3 (30 m/100 ft.)
WS4	Wind Speed at level 4 (60 m/200 ft.)

▨ = Final Output

1.3.4 Final Data Summary Sheet

C-b Shale
Project 176
Date ______

	1977				1978											
	SEP	OCT	NOV	DEC	JAN.	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SITE 020																
WS1 (10 m)						▨										
WD1 (10 m)						▨										
MIX						▨										
INV						▨										
STAB1 (50 m)						▨										
STAB2(200m)						▨										
PART						▨										
SITE 021																
SITE 022																
SITE 023																
WS2 (10 m)						▨										
WS3 (30 m)						▨										
WS4 (60 m)						▨										
WD2 (10 m)						▨										
WD3 (30 m)						▨										
WD4 (60 m)						▨										
BWS1 (10 m)						▨										
BWS3 (60 m)						▨										
BHD1 (10 m)						▨										
BHD3 (60 m)						▨										
BVD1 (10 m)						▨										
BVD3 (60 m)						▨										
STH2 (10 m)						▨										
STH3 (30 m)						▨										
STH4 (60 m)						▨										
BST1 (10 m)						▨										
BST3 (60 m)						▨										
BSP1 (10 m)						▨										
BSP3 (60 m)						▨										
SGW1 (10 m)																
SGW2 (30 m)																
TEM2 (10 m)						▨										
TEM3 (30 m)						▨										
TEM4 (60 m)						▨										
DT2 (60-10 m)						▨										

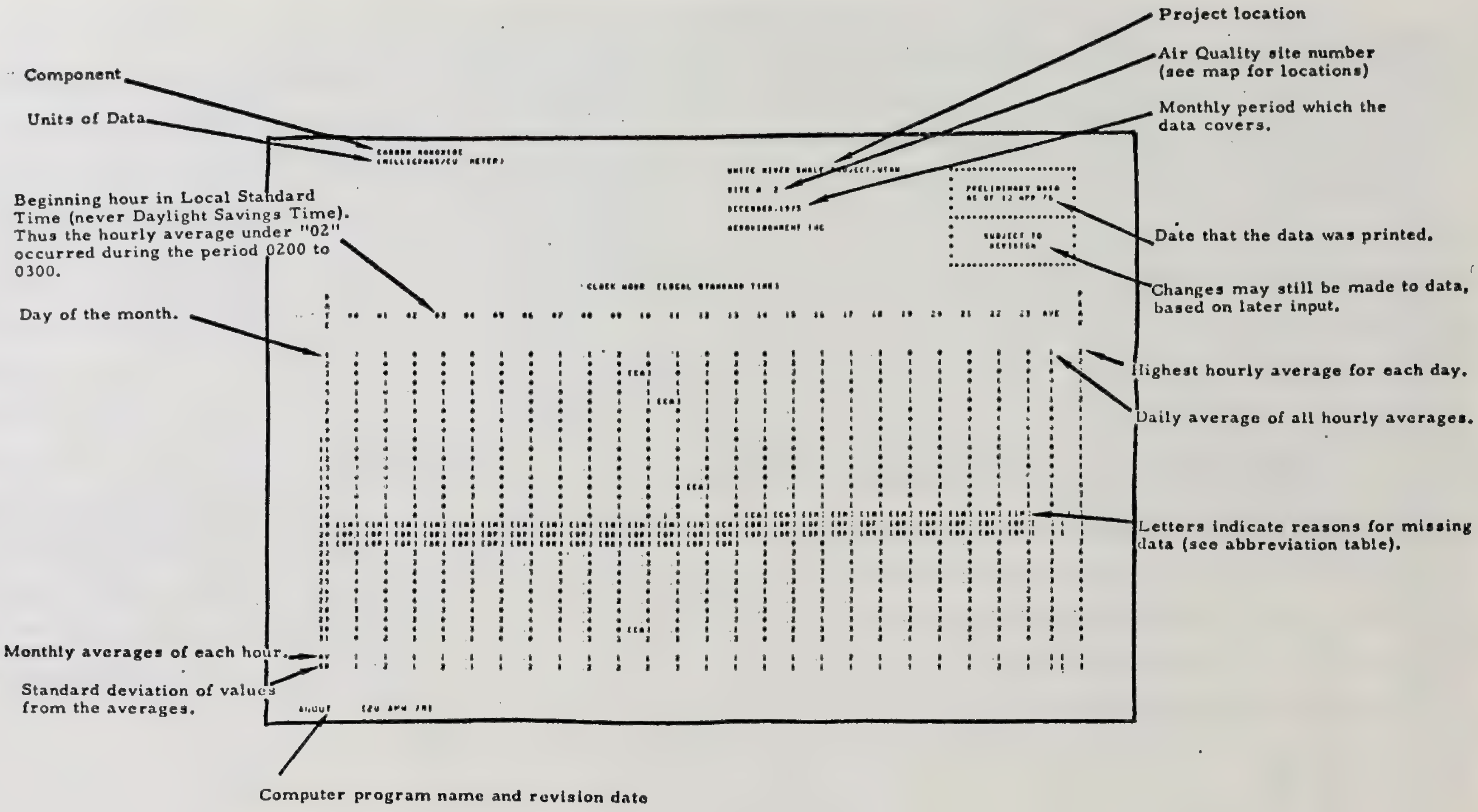
▨ = Final Output

Final Data Summary Sheet

Project 176
Date

	1977				1978											
	SEP	OCT	NOV	DEC	JAN.	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SITE 023 continued																
RH1 (1 m)						▨										
BARP						▨										
EVAP																
SOLR						▨										
NO						▨										
NO2						▨										
NOX						▨										
03						▨										
SO2						▨										
H2S						▨										
CO						▨										
CH4						▨										
HC						▨										
THC						▨										
PART						▨										
PIBAL						▨										
SITE 024																
SITE 042																
WS 1 (10 m)						▨										
WD1 (10 m)						▨										
PART						▨										
TEMP						▨										
SITE 045																
SITE 046																
SITE 056																
WS1 (10 m)						▨										
WD1 (10 m)						▨										
PART						▨										
TEMP						▨										

MONTHLY COMPONENT SHEET KEY



Component
Units of Data
Beginning hour in Local Standard Time (never Daylight Savings Time). Thus the hourly average under "02" occurred during the period 0200 to 0300.
Day of the month.
Monthly averages of each hour.
Standard deviation of values from the averages.
Computer program name and revision date
Project location
Air Quality site number (see map for locations)
Monthly period which the data covers.
Date that the data was printed.
Changes may still be made to data, based on later input.
Highest hourly average for each day.
Daily average of all hourly averages.
Letters indicate reasons for missing data (see abbreviation table).

MONTHLY WIND DIRECTION SHEET KEY

Altitude of measurements (10 meters, 20 meters, etc.)

Units are degrees of a circle 0 to 360 to the nearest 5 degrees.

Beginning hour in Local Standard Time (never Daylight Savings Time). Thus the hourly average under hour "02" occurred during the period 0200 to 0300.

Day of the month.

"VA" stands for variable, which indicates no definite hourly average wind direction is possible.

Project location

Air quality site number. (see map for location)

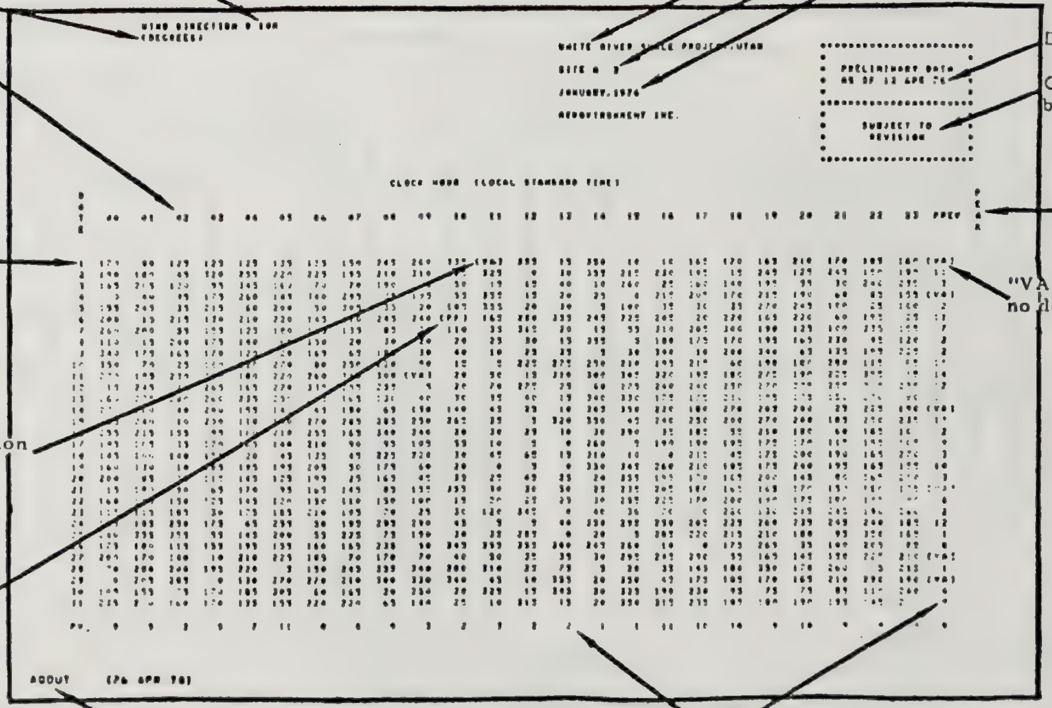
Monthly period which the data covers.

Date that the data was printed.

Changes may still be made to the data, based on later inputs.

Peak column is not used

"VA" stands for variable, which indicates no definite prevailing wind direction.

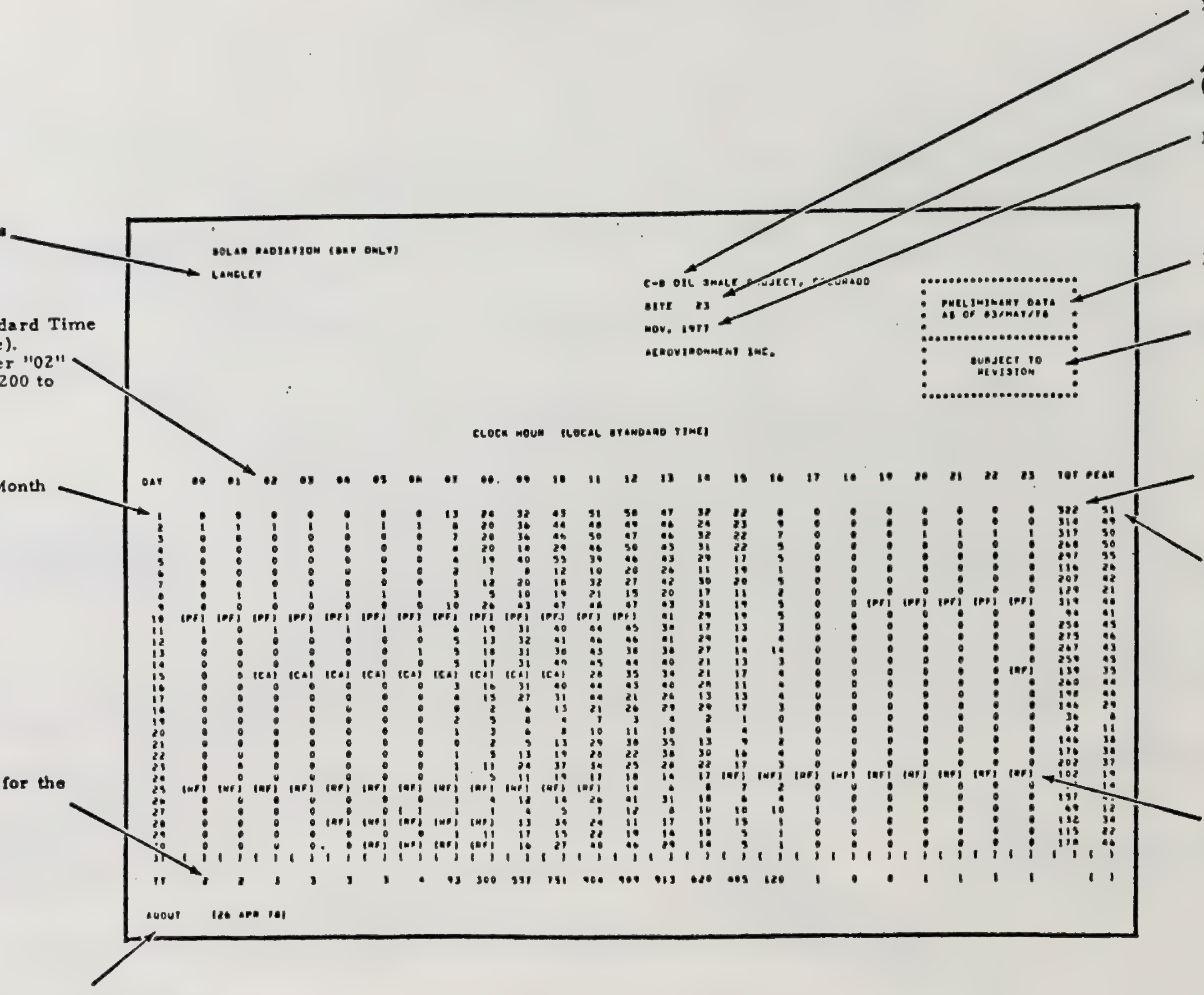


Malfunction code indicates reason for missing data (see abbreviation table).

Computer program name and revision date

Monthly prevailing wind direction is divided into 16 sectors. Sector "1" indicates a prevailing direction between 348.5 and 11.0 degrees (22.5 degree sector) centered on North, Sector "2" corresponds to 11.5 to 34.0 degrees, centered on the NNE, etc.

MONTHLY SOLAR RADIATION SHEET KEY


SOLAR RADIATION (DAY ONLY)
LANGLEY
C-B OIL SHALE PROJECT, COLORADO
SITE 23
NOV, 1977
AEROVIRONMENT INC.
PRELIMINARY DATA AS OF 03/MAY/78
SUBJECT TO REVISION
CLOCK HOUR (LOCAL STANDARD TIME)
DAY
TOT PEAK
AOOUT (26 APR 78)

Project Location

Air Quality site number (see map for locations)

Monthly period which the data covers.

Units

Date that the data was printed.

Changes may still be made to data based on later input.

Beginning hour in Local Standard Time (never Daylight Savings Time). Thus the hourly average under "02" occurred during the period 0200 to 0300.

Day of the Month

Total Solar Radiation for the day

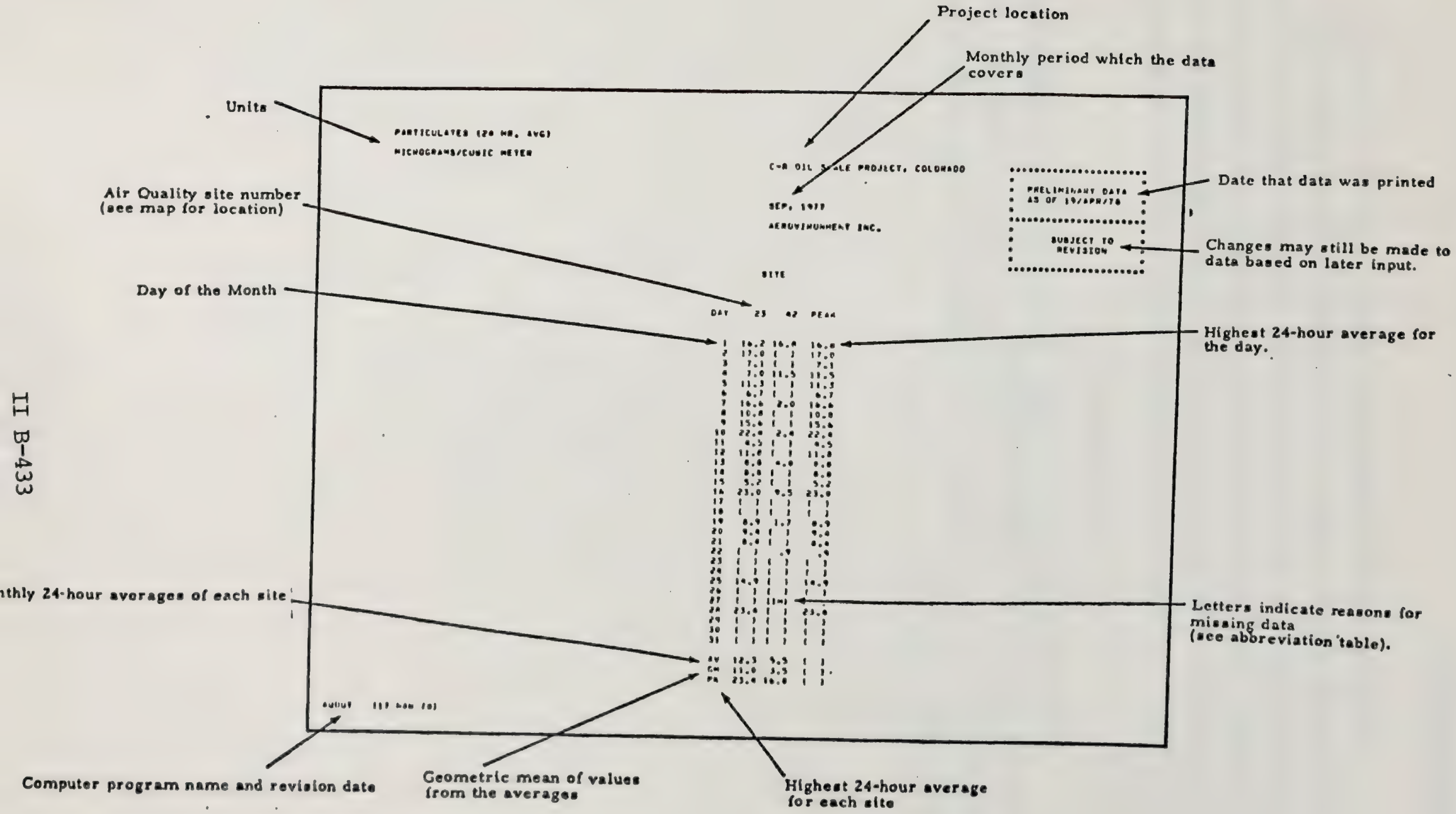
Highest hourly average for the day.

Total Solar Radiation for the hour of the month.

Letters indicate reasons for missing data (see abbreviation table).

Computer program name and revision date

MONTHLY PARTICULATES SHEET KEY



Project location

Monthly period which the data covers

Units

Date that data was printed

Air Quality site number (see map for location)

Changes may still be made to data based on later input.

Day of the Month

Highest 24-hour average for the day.

nthly 24-hour averages of each site

Letters indicate reasons for missing data (see abbreviation table).

Computer program name and revision date

Geometric mean of values from the averages

Highest 24-hour average for each site

1.4 Descriptive Regional Meteorological Summary

February 1978

Temperatures for February were close to normal. The daylight hours were slightly below average with the nighttime somewhat above the average at Grand Junction which would indicate more than the usual amount of cloudiness. The Pacific ridge built up at midmonth, but Colorado's position was such that stationary frontal patterns between the Pacific Maritime air mass and the cold continental regime alternated over the tracts during this period.

Precipitation was about average. The frontal patterns originated from the moist Pacific to the west during the first half of the month and showers continued when the stationary front oscillated back and forth across the state after midmonth.

SECTION 2.0

METEOROLOGY

WIND SPEED

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

FEB, 1978

AEROVIRONMENT INC.

****
* FINAL DATA *
* AS OF 15/MAY/78 *
****

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	2	1	1	1	2	2	2	2	(	1	1	1	1	2	2	2	3	3	2	2	2	4	3	4	2	4
2	5	5	4	4	3	3	2	3	4	4	4	4	4	4	4	4	3	3	2	2	1	2	3	3	3	5
3	3	3	4	4	4	4	3	4	4	4	2	4	3	3	4	3	2	1	1	3	2	2	2	2	3	4
4	2	4	4	3	3	1	2	2	4	4	3	3	3	1	2	2	2	1	1	2	2	2	3	4	2	4
5	3	4	5	4	4	5	5	2	1	1	1	1	2	1	2	3	2	1	1	1	1	2	4	4	2	5
6	4	3	2	2	1	2	1	1	1	1	2	4	4	3	3	3	2	1	2	1	0	1	1	1	2	4
7	0	0	0	1	1	2	1	2	2	1	2	1	4	4	4	4	4	2	2	3	4	2	1	4	2	4
8	2	2	2	2	1	1	1	5	4	2	4	5	4	5	6	4	4	4	1	2	2	2	2	2	3	6
9	2	2	3	4	5	5	4	3	3	4	4	7	7	4	4	5	4	3	4	4	3	4	4	4	4	7
10	5	5	5	5	4	4	4	5	4	5	4	5	5	4	4	5	3	2	2	2	2	4	5	4	4	5
11	2	2	1	2	2	4	4	2	3	2	2	2	2	3	4	1	2	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	2	4
12	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	2	3	2	3	2	1	2	1	1	2	2	1	1	2	2	3
13	1	1	1	2	2	3	3	3	4	4	3	4	3	3	2	2	2	1	1	2	2	3	3	3	2	4
14	3	4	3	3	1	1	1	1	2	1	1	1	3	4	4	3	1	1	1	1	1	1	1	2	2	4
15	2	2	3	4	4	4	3	4	3	2	1	1	1	2	3	3	3	3	1	1	1	1	1	2	2	4
16	3	2	2	2	1	2	3	3	3	3	3	3	3	4	4	4	3	2	1	2	2	2	2	2	3	4
17	3	4	3	3	4	4	4	4	4	3	2	4	4	4	3	4	3	2	1	2	3	3	3	3	3	4
18	3	3	3	3	3	3	4	4	4	4	3	2	2	3	2	2	2	3	4	2	1	2	2	1	3	4
19	2	1	1	1	0	2	2	2	2	2	2	1	2	1	1	1	2	3	2	2	2	2	2	2	2	3
20	2	1	2	1	2	2	1	2	4	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	2	4
21	1	1	1	2	2	2	3	4	4	2	1	2	1	1	1	2	4	3	2	3	2	2	3	3	2	4
22	4	3	2	2	2	2	1	1	2	1	3	3	3	2	2	1	1	2	2	2	2	2	2	4	2	4
23	4	4	3	3	2	3	1	0	1	2	2	1	1	2	1	2	3	2	2	2	2	4	4	4	2	4
24	5	3	4	3	4	4	3	3	6	5	3	2	2	3	3	3	3	2	2	2	1	3	3	4	3	6
25	4	4	4	3	3	2	2	1	2	2	2	2	3	3	4	4	2	1	1	1	1	1	1	1	2	4
26	1	2	1	2	1	1	1	1	2	2	2	3	4	4	4	4	3	2	1	2	3	4	2	2	2	4
27	2	2	2	2	2	1	1	2	2	2	2	3	4	5	4	4	4	3	2	2	1	4	2	1	2	5
28	1	1	1	2	2	2	2	3	3	3	2	2	2	3	3	3	3	2	2	2	3	2	2	2	2	3
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	3	3	2	3	2	3	2	3	3	3	2	3	3	3	3	3	3	2	2	2	2	2	2	3	2	[ ]
SD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	[ ]

AQOUT (04 MAY 78)

WIND SPEED AT LEVEL 2

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 15/MAY/78   *
*                    *
**********************
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CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
2	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	7	4	5	5	5	5	6	4	3	1	1	2	2	3	4	7
3	3	1	1	1	2	2	1	1	2	1	4	4	6	7	7	6	7	5	4	2	2	2	2	2	3	7
4	2	2	2	2	1	1	1	1	1	1	1	1	1	2	2	1	2	2	1	1	1	1	2	3	1	3
5	2	2	3	4	2	2	1	3	2	2	2	3	3	2	2	3	3	3	1	2	1	5	3	3	2	5
6	2	3	3	4	6	4	5	4	1	3	4	4	5	4	4	3	3	2	1	2	1	1	1	1	3	6
7	0	0	1	1	1	2	2	1	1	1	1	3	4	5	5	6	5	6	6	4	4	1	4	3	3	6
8	3	2	1	1	3	3	2	5	3	4	4	4	4	4	5	4	4	4	1	1	2	2	1	2	3	5
9	2	3	3	2	3	3	4	3	3	2	4	7	5	4	4	6	4	3	3	3	1	2	2	3	3	7
10	4	3	2	2	3	5	5	5	5	6	7	6	8	8	7	7	5	5	4	3	3	4	4	4	5	8
11	4	3	3	3	3	4	4	4	2	2	2	3	2	4	6	3	3	4	3	2	2	3	4	5	3	6
12	1	1	3	3	3	3	2	1	1	3	4	4	4	4	2	3	3	2	1	1	1	1	2	1	2	4
13	1	2	1	1	1	1	1	2	1	2	4	4	5	4	3	3	3	3	2	2	2	2	1	1	2	5
14	1	1	2	3	2	1	2	1	0	0	1	2	2	3	3	3	2	1	1	1	2	1	1	1	2	3
15	1	1	1	1	1	2	1	1	1	1	1	1	3	3	4	5	6	4	3	1	1	1	1	1	2	6
16	1	1	1	1	1	1	2	2	4	3	3	3	3	4	4	4	5	4	2	1	1	1	1	1	2	5
17	1	1	1	0	1	1	1	0	0	0	1	4	4	5	4	4	3	2	1	0	1	1	1	1	2	5
18	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	4	3	3	1	1	1	3	2	2	4
19	2	1	2	3	2	1	1	0	1	0	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	3
20	1	1	1	1	2	1	2	3	3	3	2	3	3	3	3	2	1	1	1	1	1	1	0	1	2	3
21	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	2	4	3	2	1	1	1	1	1	1	4
22	1	1	1	1	1	1	1	1	0	0	1	2	1	1	1	1	1	2	2	1	1	1	1	1	1	2
23	1	1	1	1	1	2	2	2	2	1	1	2	3	1	2	3	4	4	4	2	1	2	2	2	2	4
24	1	1	1	1	1	1	2	1	1	2	4	3	2	3	3	4	4	4	4	2	1	1	1	1	2	4
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26	2	3	2	3	4	1	1	2	4	3	4	6	5	6	6	6	5	5	5	7	4	4	2	3	4	7
27	1	3	3	5	4	3	1	2	3	4	5	7	9	8	8	7	7	6	7	4	4	4	4	2	5	9
28	1	1	1	1	2	1	1	1	0	1	2	2	4	4	4	5	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	2	4
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	2	2	2	2	2	2	2	2	2	2	3	3	4	4	4	4	4	3	3	2	2	2	2	2	2	[ ]
SD	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	2	2	1	1	1	1	1	[ ]

ADOUT [04 MAY 78]

WIND SPEED AT LEVEL 3

METERS/SECOND
LEVEL HEIGHT : 30 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*  AS OF 15/MAY/78   *
*                    *
**********************
```

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
2	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	8	4	6	6	6	6	7	6	4	2	2	4	4	4	5	8
3	4	3	3	3	3	2	2	2	3	3	4	6	6	8	8	7	8	7	4	2	4	2	3	3	4	8
4	2	3	2	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	2	1	1	1	3	4	2	4
5	3	3	4	4	3	4	3	4	3	3	2	4	3	3	2	3	2	4	2	3	2	4	4	4	3	4
6	4	4	3	4	5	4	5	4	1	4	5	5	6	5	4	4	3	2	2	2	2	1	2	1	3	6
7	1	1	1	1	2	2	2	1	1	1	1	3	5	5	6	6	6	7	6	5	4	2	4	4	3	7
8	3	2	1	2	3	4	3	5	4	4	5	5	5	5	6	4	4	4	2	1	3	3	2	2	3	6
9	2	3	4	2	4	4	5	4	3	3	6	8	5	5	4	6	5	4	4	3	3	2	3	4	4	8
10	6	4	3	2	3	6	5	6	5	6	7	7	8	8	7	8	5	6	6	4	4	4	5	4	5	8
11	4	3	4	4	4	4	6	4	3	2	3	4	3	4	6	3	4	4	4	2	2	3	5	7	4	7
12	1	2	4	3	4	4	3	1	2	3	4	4	5	5	2	3	3	2	1	2	3	3	2	1	3	5
13	2	2	1	1	2	2	2	2	1	3	4	5	5	4	3	4	4	3	2	3	2	2	2	1	3	5
14	1	1	3	3	2	2	2	1	0	1	2	2	2	3	4	4	3	2	2	2	3	1	2	1	2	4
15	2	2	1	0	1	3	2	2	2	1	1	2	3	4	4	6	5	5	3	1	1	1	1	2	2	6
16	1	2	1	2	2	2	3	2	4	4	3	3	4	5	5	5	5	4	2	1	1	1	1	1	3	5
17	1	1	1	1	1	1	1	0	0	1	1	4	5	5	5	4	4	2	1	1	1	1	0	1	2	5
18	1	1	1	1	1	1	1	1	1	1	2	2	3	2	2	2	4	4	3	1	1	2	3	1	2	4
19	2	1	3	3	3	2	1	1	1	0	1	1	1	1	0	1	1	2	2	1	1	1	1	1	1	3
20	1	2	1	1	2	2	2	3	4	3	3	3	4	4	3	2	1	1	2	1	1	1	1	1	2	4
21	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	4	4	4	2	1	1	2	1	2	4
22	2	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	2	2	2	1	0	1	1	1	2
23	2	1	1	2	1	2	3	3	2	1	1	3	3	2	2	4	4	6	5	3	2	2	2	2	2	6
24	1	1	1	1	3	1	2	1	1	2	1	4	2	3	4	4	4	5	5	4	1	1	2	1	2	5
25	2	2	3	3	4	3	2	4	3	4	6	5	6	6	7	7	6	4	6	6	6	5	5	5	5	7
26	3	4	3	4	4	2	2	2	4	3	5	7	6	6	8	7	6	6	7	8	4	5	2	3	5	8
27	2	3	3	5	6	4	4	2	2	4	4	6	8	9	8	8	8	8	7	6	4	5	4	4	5	9
28	1	1	2	1	2	2	1	1	1	1	2	2	4	4	4	3	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	2	4
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	2	2	2	2	3	3	2	2	2	2	3	4	4	4	4	4	4	4	3	3	2	2	3	2	3	[ ]
SD	1	1	1	1	1	1	1	2	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	2	1	[ ]

AQOUT [04.MAY.78]

WIND SPEED AT LEVEL 4

METERS/SECOND
LEVEL HEIGHT : 60 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 15/MAY/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	8	4	5	6	6	5	6	7	6	2	2	4	4	4	5	8
3	4	3	3	3	3	2	2	2	3	3	4	6	6	8	9	7	8	7	5	2	4	2	4	4	4	9
4	1	3	2	1	1	1	1	1	2	3	1	2	1	2	2	1	2	4	3	1	1	1	3	3	2	4
5	2	3	4	5	4	4	3	4	4	3	2	4	4	3	2	3	3	3	3	3	2	5	4	4	3	5
6	3	4	3	4	6	5	6	4	2	4	5	6	7	5	4	4	3	3	2	2	2	1	2	2	4	7
7	1	1	1	2	2	2	3	1	2	1	1	2	5	5	6	6	6	7	7	5	5	2	4	4	3	7
8	3	3	1	3	4	4	4	5	4	4	5	4	5	4	6	5	5	5	2	2	3	3	2	2	4	6
9	2	4	5	3	4	5	6	5	4	4	6	8	7	5	4	7	5	4	4	4	3	3	4	4	5	8
10	7	4	4	3	4	7	5	6	8	8	8	7	9	9	8	8	5	7	5	4	4	4	5	5	6	9
11	5	4	4	4	5	5	6	4	4	3	3	4	3	4	7	3	4	4	4	3	2	4	6	7	4	7
12	2	2	4	4	4	4	4	2	2	4	4	5	5	5	2	3	3	2	1	1	1	1	3	1	3	5
13	4	4	2	2	2	2	2	2	2	3	4	5	4	5	4	4	4	3	2	3	3	2	2	1	3	5
14	1	1	3	4	2	1	2	1	0	1	2	2	2	3	4	4	2	2	2	2	3	1	1	1	2	4
15	1	1	1	1	1	3	3	3	2	2	1	1	3	3	4	6	6	6	3	2	1	1	1	2	2	6
16	1	1	1	2	1	2	3	2	4	4	3	3	4	5	5	5	5	4	3	1	1	1	1	1	3	5
17	1	1	1	1	1	1	1	0	1	1	2	5	5	5	5	4	4	2	2	1	0	0	1	0	2	5
18	0	1	1	1	1	1	1	2	1	1	2	2	3	1	2	2	4	4	3	1	1	2	4	2	2	4
19	3	2	3	3	3	2	2	1	1	0	1	1	1	1	1	1	1	2	2	2	2	1	1	2	2	3
20	2	3	2	1	3	3	3	4	4	3	2	3	3	4	3	2	1	1	2	2	1	1	1	1	2	4
21	1	1	1	0	0	1	1	1	2	2	1	1	1	1	1	3	4	4	5	4	2	1	1	1	2	5
22	1	1	1	1	0	1	1	1	1	1	1	2	1	1	1	1	2	3	1	2	1	0	1	1	1	3
23	1	1	1	2	1	2	2	3	1	1	1	3	3	2	2	4	5	7	7	4	2	3	3	2	3	7
24	2	2	2	2	4	3	3	2	2	2	4	4	2	4	4	4	5	6	6	6	2	2	2	2	3	6
25	3	3	4	3	5	4	3	4	4	4	6	5	6	7	7	7	7	5	7	7	7	5	6	6	5	7
26	3	4	3	4	6	3	3	3	4	3	5	7	6	6	8	8	7	7	8	9	5	6	2	4	5	9
27	3	3	3	6	8	5	4	3	3	4	4	7	9	10	10	9	8	8	7	7	4	6	5	3	6	10
28	1	2	3	2	2	3	2	1	1	1	2	3	4	4	4	4	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	2	4
29	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
30	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3	2	2	3	3	3	( )
SD	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	( )

AQOUT (04 MAY 78)

WIND SPEED

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 42

FEB, 1978

AEROVIRONMENT INC.

****
*   *
*   FINAL DATA   *
* AS OF 15/MAY/78   *
*   *
****

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	2	2	1	1	1	1	1	2	1	0	1	1	2	2	2	2	2	5	5	5	2	3	3	3	2	5
2	3	3	3	3	4	3	2	3	3	2	4	6	5	4	5	5	6	6	3	2	3	2	2	2	3	6
3	2	3	3	2	3	2	3	2	3	4	2	2	3	5	8	5	7	5	5	4	3	3	3	2	3	8
4	2	2	2	3	2	3	2	2	2	2	2	1	1	1	2	2	2	2	2	2	2	1	2	3	2	3
5	2	2	3	3	3	3	3	4	3	3	3	2	2	1	2	4	4	2	2	1	3	2	5	3	3	5
6	4	3	2	3	2	2	5	3	1	2	3	4	6	6	4	4	3	1	2	2	1	1	1	1	3	6
7	1	0	1	1	2	2	3	1	2	2	2	1	3	5	5	7	6	5	7	5	4	3	2	2	3	7
8	2	2	2	2	2	2	2	3	4	4	4	4	6	6	6	6	4	5	3	1	2	1	1	2	3	6
9	2	1	2	2	3	2	2	2	3	4	4	7	7	7	6	5	5	3	3	3	3	3	4	3	4	7
10	3	3	5	4	4	4	4	4	4	3	6	6	8	7	6	6	4	3	3	2	3	4	5	5	4	8
11	4	2	2	2	1	3	3	2	2	2	2	3	3	3	6	3	3	3	2	2	3	2	2	1	3	6
12	2	2	3	2	2	2	2	2	2	2	4	4	4	3	2	2	4	2	1	1	1	1	1	1	2	4
13	1	1	1	1	1	2	1	2	2	2	3	4	4	5	3	3	3	3	2	2	2	3	2	2	2	5
14	1	1	1	1	1	0	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	1	1
15	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
16	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
17	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
18	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
19	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
20	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
21	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
22	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
23	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
24	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	2	2	3	3	4	3	5	4	3	3	2	1	2	2	3	5
25	2	2	3	2	3	2	2	1	2	2	2	4	6	5	6	6	5	3	4	4	1	2	2	4	3	6
26	3	4	3	3	3	1	2	1	3	2	3	5	6	5	8	8	6	5	2	3	4	4	4	5	4	8
27	2	2	2	2	5	4	2	2	2	2	3	4	8	7	8	7	8	6	4	2	3	5	3	1	4	8
28	1	2	1	1	1	2	2	2	2	1	2	2	4	4	4	4	3	3	2	3	3	2	3	3	2	4
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	2	2	2	2	2	2	2	2	2	2	3	3	4	4	5	5	4	4	3	3	2	2	3	2	3	[ ]
SD	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1	[ ]

ADOUT [04 MAY 78]

WIND SPEED

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 56

FEB, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 15/MAY/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	1	1	2	2	1	1	2	1	0	1	1	2	2	2	2	1	2	1	1	1	2	1	1	1	1	2
2	2	2	2	3	2	2	2	2	2	2	3	3	3	2	4	3	2	2	1	1	2	2	2	2	2	4
3	1	1	1	2	2	4	3	2	5	3	3	1	2	2	3	3	1	1	1	1	1	1	1	1	2	5
4	3	2	2	2	2	2	2	1	2	2	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	3
5	2	2	1	2	1	2	1	2	2	2	1	1	1	1	2	1	0	0	1	1	2	1	3	3	1	3
6	3	2	2	1	1	2	2	2	1	1	2	4	3	4	3	3	3	2	1	1	0	0	1	0	2	4
7	0	0	0	0	0	1	1	1	1	1	1	2	1	3	3	4	4	2	1	1	1	2	2	1	1	4
8	3	2	1	1	1	2	1	1	2	2	2	3	3	4	4	4	3	4	2	2	2	2	1	2	2	4
9	2	1	1	2	1	1	1	1	1	1	3	2	3	5	2	2	3	2	2	2	2	2	3	1	2	5
10	2	2	4	3	4	2	2	3	2	2	3	2	2	2	3	2	3	2	1	2	1	2	2	2	2	4
11	2	1	1	2	1	1	2	3	2	2	1	2	1	1	2	3	1	0	2	1	0	0	0	0	1	3
12	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	1	1	1	1	0	0	1	1	1	2
13	1	1	1	1	1	1	1	1	1	2	3	2	2	3	3	3	2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	2	3
14	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	2	3	2	1	1	2	1	2	1	1	2	3
15	2	1	2	1	1	2	2	3	2	2	1	1	1	2	3	3	2	2	1	1	2	1	2	1	2	3
16	2	1	1	2	1	0	1	1	2	3	3	2	2	3	4	5	4	3	2	2	1	1	1	1	2	5
17	2	1	1	1	1	1	2	2	1	2	2	2	4	4	4	4	3	2	1	1	2	2	2	2	2	4
18	1	1	1	1	1	1	1	2	1	2	4	2	2	2	2	2	1	3	3	1	0	0	1	1	1	4
19	2	1	0	1	1	1	1	1	1	2	1	1	2	2	1	1	1	3	2	2	1	2	2	1	1	3
20	2	1	1	1	2	1	1	1	1	1	1	2	1	3	3	1	1	0	1	1	1	0	0	0	1	3
21	1	1	1	2	1	1	2	2	1	2	1	2	1	1	1	1	3	1	1	2	2	2	2	2	1	3
22	3	2	1	2	2	2	2	2	1	1	1	3	4	2	2	2	1	1	2	1	2	2	1	2	2	4
23	4	2	1	2	2	2	2	2	2	3	3	1	3	1	2	2	2	3	2	2	2	2	2	2	2	4
24	2	3	2	2	2	2	2	2	2	3	2	2	3	3	3	4	3	1	1	2	2	1	2	1	2	4
25	1	1	2	2	1	2	1	1	1	1	1	2	2	3	3	4	3	1	1	2	2	1	2	1	2	4
26	2	1	1	1	2	2	1	1	1	1	1	2	2	4	3	5	3	2	0	1	2	2	3	2	2	5
27	2	1	2	1	1	1	1	0	2	2	2	2	3	5	4	4	4	4	1	1	1	2	2	1	2	5
28	1	1	1	1	1	1	1	1	1	3	2	2	2	3	3	3	2	1	1	2	1	2	2	2	2	3
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	2	1	1	2	1	1	1	2	1	2	2	2	2	3	3	3	2	2	1	1	1	1	2	1	2	[ ]
SD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	[ ]

AQOUT (04 MAY 78)

WIND DIRECTION

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

FEB, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 15/MAY/78   *
*                    *
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CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	115	110	90	80	90	110	[VA]	325	90	300	300	305	305	305	[VA]	165	120	110	105	115	120	130	120	125	6
2	125	125	120	135	110	125	120	115	130	120	125	160	145	160	170	165	90	90	120	115	90	120	125	110	6
3	120	110	125	130	120	110	115	120	80	115	120	[VA]	175	[VA]	190	170	[VA]	[VA]	90	125	120	120	100	90	6
4	95	130	130	115	110	110	110	110	120	130	[VA]	290	300	[VA]	110	115	115	110	90	115	110	110	115	135	6
5	120	135	125	125	130	135	130	[VA]	[VA]	325	[VA]	300	295	[VA]	295	180	300	[VA]	100	100	[VA]	[VA]	135	115	7
6	115	110	150	115	85	225	[VA]	[VA]	90	105	140	170	180	170	215	230	190	125	115	100	110	120	350	285	6
7	75	55	70	105	95	115	350	120	120	110	295	105	185	170	180	190	160	100	90	110	110	120	120	95	6
8	120	120	85	100	120	145	310	300	305	310	300	290	315	300	290	310	300	300	[VA]	95	115	115	110	115	14
9	125	105	120	125	135	140	125	120	120	100	135	135	130	155	140	130	130	115	100	85	95	95	95	120	6
10	100	105	120	125	115	110	120	110	100	120	135	170	155	140	155	130	120	110	115	110	110	145	130	120	6
11	105	110	105	110	140	90	80	105	110	130	105	180	225	135	245	[VA]	[VA]	275	[VA]	115	170	95	115	90	6
12	75	105	120	125	100	105	105	105	100	120	180	180	[VA]	305	[VA]	[VA]	250	90	110	125	125	115	100	115	6
13	105	110	110	110	125	135	145	135	140	145	130	190	180	190	190	195	180	160	115	105	110	135	145	135	7
14	140	140	135	130	125	320	10	110	125	105	0	[VA]	290	290	315	10	40	30	45	115	305	95	35	85	7
15	105	105	130	135	130	125	130	115	125	135	115	105	80	60	195	190	210	220	210	[VA]	[VA]	90	100	125	6
16	130	130	130	130	110	[VA]	290	270	300	295	300	285	295	305	325	305	320	20	55	120	135	125	125	130	14
17	135	135	140	140	135	140	140	140	145	150	[VA]	290	330	320	340	290	300	70	95	115	115	110	140	135	7
18	145	140	140	145	145	140	140	135	140	140	130	[VA]	270	250	[VA]	105	[VA]	195	280	280	270	300	295	[VA]	7
19	320	90	30	100	75	105	105	130	140	115	105	115	295	[VA]	[VA]	95	105	105	105	95	125	125	120	115	6
20	125	120	300	310	300	295	300	305	280	280	280	280	290	305	330	25	[VA]	[VA]	65	110	115	110	100	100	14
21	[VA]	105	90	105	90	100	130	130	140	[VA]	[VA]	305	15	105	[VA]	110	120	130	105	130	120	125	110	140	6
22	135	125	100	95	95	110	[VA]	100	100	150	305	295	295	300	290	295	310	50	110	120	105	120	125	135	6
23	140	140	130	130	110	130	120	[VA]	30	90	305	305	[VA]	105	90	150	215	90	105	95	100	125	135	135	7
24	140	110	130	120	135	135	110	120	135	140	115	120	170	200	190	185	210	150	105	100	100	110	135	140	6
25	140	130	130	125	125	110	100	100	115	120	130	140	180	220	170	190	140	70	95	100	100	105	100	110	7
26	100	105	110	115	100	90	90	100	110	105	110	170	200	190	180	200	175	110	80	105	75	75	100	85	5
27	90	115	115	130	105	100	115	105	120	140	165	200	220	210	215	205	195	[VA]	100	[VA]	[VA]	295	[VA]	70	6
28	115	110	90	105	120	115	110	135	140	145	140	110	145	165	160	145	170	185	130	130	120	120	120	115	7
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
PV	6	6	6	6	6	6	6	6	6	6	7	14	14	9	9	9	[VA]	6	6	6	6	6	6	6	6

ADOUT [04 MAY 78]

WIND DIRECTION AT LEVEL 2

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 16/MAY/78   *
*                    *
**********************
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CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	195	200	185	180	[VA]	195	210	[VA]	10	[VA]	335	295	335	255	320	195	180	175	180	175	[VA]	105	130	110	9
2	155	155	180	80	10	105	160	155	[VA]	[VA]	195	195	195	190	190	200	210	205	115	95	115	170	120	130	9
3	145	120	95	100	125	110	335	110	95	50	[VA]	205	215	200	205	215	205	190	195	125	135	120	150	[VA]	7
4	125	120	155	170	[VA]	190	335	[VA]	135	100	65	355	[VA]	155	135	145	170	220	[VA]	[VA]	265	130	170	175	7
5	150	165	165	155	120	130	105	135	150	115	75	145	205	140	205	205	205	210	180	145	170	240	140	110	7
6	125	195	230	195	215	235	225	210	[VA]	215	215	215	215	215	225	215	215	180	120	170	185	130	210	285	10
7	[IM]	300	330	180	120	100	230	95	130	65	55	185	220	210	205	205	195	190	180	170	165	[VA]	190	180	10
8	175	165	95	[VA]	205	215	225	300	310	300	310	290	290	290	300	300	305	295	285	190	170	200	190	145	14
9	145	185	165	140	140	150	155	140	140	160	165	170	165	175	190	175	185	160	160	150	80	125	140	145	8
10	170	[VA]	130	150	160	180	175	165	165	170	180	190	180	190	190	170	180	175	165	150	175	130	130	125	8
11	160	145	150	140	165	170	165	165	150	125	165	225	210	205	230	220	225	220	215	140	170	175	170	175	8
12	[VA]	170	135	200	195	180	145	110	155	140	205	200	215	230	280	355	275	280	180	135	205	195	195	140	10
13	195	205	110	160	165	150	140	165	105	270	200	210	205	205	215	200	205	205	170	175	140	140	120	120	10
14	120	115	180	195	5	95	255	230	145	15	355	5	355	335	335	5	15	20	15	325	315	255	220	210	1
15	210	165	140	205	130	165	190	160	160	100	[VA]	10	240	215	215	210	215	225	240	270	170	90	200	235	11
16	135	150	260	10	330	285	315	305	315	320	310	320	325	330	340	350	345	10	10	[VA]	245	260	180	200	16
17	95	165	220	200	125	205	200	15	95	35	355	320	340	345	5	325	10	80	85	[VA]	215	200	185	215	10
18	260	180	250	210	220	215	285	80	95	80	105	20	340	335	335	320	215	215	235	235	230	275	335	290	11
19	290	280	310	315	295	290	230	140	170	290	90	70	310	330	305	70	140	120	145	150	180	195	105	185	14
20	130	335	295	265	295	290	290	300	305	295	310	315	350	20	40	350	320	280	275	135	165	160	230	205	14
21	220	120	170	185	160	220	180	155	115	65	20	5	[VA]	340	10	180	180	195	200	280	[VA]	[VA]	130	165	9
22	125	210	135	190	265	280	235	140	145	50	[VA]	10	320	15	40	340	10	20	220	225	[VA]	160	145	100	7
23	120	165	60	135	65	130	135	145	115	[VA]	350	225	200	185	225	205	210	205	200	135	130	130	130	135	7
24	115	105	110	120	[VA]	[VA]	145	100	95	[VA]	215	205	225	225	205	225	210	210	195	210	105	105	[VA]	120	[VA]
25	175	180	200	175	200	200	185	195	240	200	225	225	210	215	215	210	200	210	225	220	215	210	220	215	10
26	195	205	225	210	205	[VA]	175	[VA]	210	210	220	215	210	210	210	215	205	195	200	195	195	185	95	140	10
27	170	[VA]	260	180	205	205	230	200	180	225	215	220	215	215	215	210	220	205	200	205	295	295	265	265	10
28	225	340	315	245	190	195	125	195	155	[VA]	130	205	225	210	205	205	260	195	165	100	60	85	70	130	10
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
PV	7	8	8	9	8	10	9	7	7	5	11	10	10	11	10	10	10	10	10	9	9	7	7	7	10

AQDUT [04 MAY 78]

WIND DIRECTION LEVEL 3

DEGREES
LEVEL HEIGHT = 30 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 15/MAY/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
2	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	195	195	190	190	185	195	200	195	160	120	165	160	170	195	9
3	180	150	135	110	120	130	100	125	135	95	285	200	210	195	195	205	195	190	170	145	165	140	180	[VA]	[VA]
4	165	115	150	185	55	125	325	80	115	100	60	350	[VA]	130	125	140	165	205	280	300	310	110	145	150	7
5	145	130	145	135	125	125	110	130	140	120	100	130	180	145	170	190	205	210	180	140	165	245	140	105	7
6	150	185	235	200	200	230	220	205	150	205	200	205	205	205	215	210	210	175	115	160	190	150	200	275	10
7	290	325	230	175	125	95	225	[IM]	[IM]	65	50	240	205	195	195	195	185	185	170	170	155	140	180	170	10
8	170	155	120	155	200	225	215	295	300	290	305	280	285	275	295	290	300	275	275	170	130	165	210	190	14
9	150	175	150	140	135	150	155	135	130	145	165	160	165	170	170	165	180	165	165	150	80	120	135	135	8
10	165	185	145	135	155	170	170	165	160	170	180	180	180	190	185	165	180	170	155	150	155	130	130	120	8
11	150	150	145	135	155	170	165	165	145	130	165	225	205	205	230	220	220	220	215	145	170	175	165	170	8
12	[VA]	170	130	190	190	180	155	145	160	[VA]	200	195	210	225	280	335	270	275	195	160	200	175	190	[IM]	9
13	180	195	155	180	165	135	130	170	145	230	195	200	200	205	210	195	195	200	170	170	140	130	145	120	10
14	115	120	180	180	325	50	280	240	0	0	330	355	350	325	330	355	10	350	15	340	315	270	210	285	16
15	210	195	85	210	145	140	150	145	150	140	355	10	230	210	205	200	215	215	230	250	315	55	[VA]	250	11
16	135	130	270	335	35	280	310	295	310	315	295	315	315	320	330	340	335	355	0	70	305	285	170	235	15
17	25	120	[VA]	240	150	210	220	[IM]	[IM]	[IM]	[IM]	320	330	335	355	310	355	65	50	45	140	195	220	215	[VA]
18	[IM]	130	[IM]	[IM]	170	235	285	45	90	65	90	10	335	315	320	285	210	205	230	235	225	270	320	280	[VA]
19	285	275	300	305	290	270	255	210	[IM]	275	75	130	310	340	315	70	105	115	140	155	185	225	315	200	14
20	280	320	295	265	290	290	285	290	295	285	295	305	340	20	25	340	305	290	285	335	150	145	220	265	14
21	215	120	170	[IM]	[IM]	190	190	[IM]	110	55	35	340	15	325	10	95	160	185	190	215	240	140	125	105	[VA]
22	100	215	45	140	255	350	245	[VA]	135	65	55	345	320	5	15	320	350	5	160	255	345	[VA]	170	105	1
23	105	80	50	125	0	115	110	125	110	60	[VA]	205	210	190	225	200	210	195	195	180	150	155	140	135	7
24	150	140	145	190	195	[VA]	155	135	125	[VA]	200	205	225	225	195	200	195	195	190	185	120	155	[VA]	165	10
25	165	185	200	175	180	195	185	195	240	200	210	210	210	205	210	210	190	205	215	210	205	195	205	205	10
26	195	185	210	210	195	200	165	205	205	195	210	205	200	200	200	205	205	190	190	185	185	185	[VA]	125	9
27	180	[VA]	195	190	190	200	220	200	185	215	210	215	205	205	210	210	205	195	195	200	255	280	255	255	10
28	240	315	315	260	145	170	[IM]	[IM]	[IM]	95	125	195	215	200	195	205	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	10
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
PV	8	[VA]	7	9	7	9	8	7	7	4	10	10	10	10	10	10	10	10	9	8	8	8	9	6	9

AQOUT [04 MAY 78]

WIND DIRECTION AT LEVEL 4

DEGREES
LEVEL HEIGHT : 60 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 15/MAY/78   *
*                    *
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CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
2	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	200	200	190	200	195	200	215	200	180	150	195	185	180	205	10
3	165	180	150	150	145	195	175	180	180	195	270	210	220	205	200	215	210	195	210	200	215	170	205	205	10
4	175	140	170	240	[VA]	135	280	75	105	115	90	30	[VA]	155	140	150	170	215	265	305	255	150	150	155	8
5	175	130	150	135	130	150	140	155	145	155	125	145	205	145	200	205	215	220	185	165	195	240	155	115	8
6	210	190	255	210	210	235	225	215	200	220	210	215	210	220	225	220	210	195	140	180	265	170	230	290	10
7	310	285	190	155	155	125	220	10	180	105	70	205	215	210	200	205	195	195	180	175	165	195	185	185	9
8	195	180	165	180	220	220	225	290	310	300	310	290	295	295	300	300	300	295	285	180	135	165	255	205	14
9	180	195	175	170	160	160	165	150	145	175	175	170	165	185	190	180	190	170	180	170	110	135	145	150	8
10	175	175	175	115	180	185	180	175	170	180	180	195	195	195	200	180	185	180	165	160	165	140	125	135	9
11	160	150	155	150	155	180	180	180	160	150	170	230	220	230	240	225	230	225	225	150	205	205	180	180	8
12	185	170	145	210	200	195	185	200	205	205	210	205	220	240	275	335	285	290	210	165	225	205	250	185	10
13	205	205	205	210	180	145	150	200	200	225	210	210	205	210	205	210	205	210	185	190	165	165	180	160	9
14	180	180	195	200	295	45	275	255	165	[VA]	330	0	355	330	335	5	0	0	20	345	340	315	245	270	1
15	235	245	105	145	150	140	155	150	155	155	315	[VA]	15	215	210	210	220	225	240	255	320	70	35	285	11
16	300	[VA]	345	345	15	290	320	315	310	315	300	320	325	325	335	345	340	0	5	55	330	320	235	265	15
17	350	105	300	275	180	235	245	200	195	115	5	325	330	340	355	315	355	65	55	30	95	280	285	180	16
18	230	115	135	150	175	205	295	220	145	130	125	5	340	325	335	300	210	215	240	245	235	300	325	300	11
19	310	300	315	315	310	300	275	260	205	255	100	95	320	325	295	90	115	120	150	230	230	230	285	225	14
20	305	325	305	295	315	315	300	305	310	300	310	310	345	25	30	350	300	285	285	[VA]	145	145	225	210	15
21	225	140	165	155	135	190	295	20	110	100	70	0	5	275	0	105	180	195	195	205	195	180	180	140	5
22	105	245	75	140	275	5	285	130	145	75	105	250	335	350	355	330	0	15	180	200	255	[VA]	180	170	1
23	150	250	100	155	320	130	135	160	145	105	270	235	225	225	225	210	215	200	205	195	190	180	205	195	10
24	195	190	200	200	200	195	200	200	200	195	215	215	240	225	210	215	205	205	200	200	195	190	210	205	10
25	195	210	210	190	200	200	205	205	210	215	225	215	215	210	215	215	200	210	225	215	215	205	225	220	10
26	205	200	240	205	210	210	205	230	215	205	215	215	205	210	210	210	210	195	200	195	195	195	120	165	11
27	190	180	200	205	200	205	225	215	205	215	215	225	215	220	215	215	215	205	200	205	240	290	265	255	11
28	265	330	330	240	155	175	155	165	195	125	145	210	225	210	205	215	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	10
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
PV	9	9	8	8	8	10	[VA]	10	10	10	10	10	11	10	10	10	10	10	10	9	11	9	9	9	10

ADOUT [04 MAY 78]

WIND DIRECTION

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 42

FEB, 1978

AEROVIRONMENT INC.

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FINAL DATA
AS OF 15/MAY/78
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CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	80	75	55	175	115	80	150	85	60	90	90	230	305	285	295	310	260	200	190	190	95	105	105	105	5
2	100	105	95	105	135	110	130	135	150	135	175	195	185	185	185	200	205	215	140	100	105	95	105	105	6
3	95	105	90	110	95	100	100	90	90	90	85	55	195	190	215	230	235	230	200	135	110	115	120	120	6
4	100	105	115	105	115	110	85	100	95	105	85	60	330	270	120	130	130	195	140	130	120	100	120	105	6
5	85	95	105	95	85	100	105	120	120	130	120	95	100	205	170	225	230	235	210	150	155	225	230	140	5
6	110	90	90	200	135	235	235	230	145	135	220	210	195	200	210	225	215	250	150	100	85	80	95	285	11
7	245	250	265	220	130	80	145	280	155	90	55	90	220	195	190	200	200	195	185	175	145	115	105	165	10
8	130	135	125	90	105	130	245	295	310	310	315	295	285	280	290	295	315	290	295	285	115	115	105	125	14
9	105	110	110	105	115	120	100	115	115	95	150	180	145	175	190	180	170	175	135	150	160	160	160	150	[VA]
10	105	95	105	140	155	125	120	145	140	130	160	180	230	165	235	210	230	255	310	135	155	135	125	115	7
11	200	200	205	175	160	135	150	150	160	160	155	145	130	150	140	125	110	175	135	130	140	115	90	185	8
12	105	125	130	85	160	120	115	130	120	95	215	200	210	250	280	305	275	265	190	125	135	115	150	120	6
13	85	80	90	110	105	105	110	105	115	95	120	215	200	200	210	230	220	210	165	170	160	130	105	100	6
14	85	75	70	70	70	75	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	4
15	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
16	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
17	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
18	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
19	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
20	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
21	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
22	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
23	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
24	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	210	220	220	225	225	210	210	200	115	95	85	80	80	90	11
25	110	100	90	90	90	85	90	95	85	110	210	210	215	220	215	215	200	210	215	225	190	115	140	205	[VA]
26	205	190	225	200	185	80	95	140	215	195	200	215	225	210	215	225	210	195	190	205	105	80	100	160	10
27	165	140	110	125	195	200	220	160	90	160	205	215	225	230	230	225	230	220	220	85	160	295	250	30	11
28	105	110	0	165	110	105	105	90	95	60	45	65	210	200	185	195	185	175	140	120	125	115	125	110	6
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
PV	6	6	6	6	6	6	6	7	6	5	10	10	10	10	11	10	10	10	[VA]	7	6	6	6	6	6

ADOUT [04 MAY 78]

WIND DIRECTION

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 56

FEB, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 15/MAY/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	130	110	150	145	140	120	125	190	120	35	335	15	325	320	330	275	165	155	130	115	135	125	160	125	7
2	20	85	90	140	105	110	125	105	105	120	105	165	155	135	150	165	115	90	105	160	155	155	155	170	6
3	100	100	100	80	100	100	90	95	95	80	70	70	165	115	180	165	205	130	100	125	125	130	135	150	5
4	135	130	140	130	155	145	155	155	145	120	100	315	5	60	95	90	125	145	135	140	150	160	145	110	7
5	135	150	115	120	130	125	145	120	140	120	55	10	270	355	35	95	175	225	130	160	150	110	125	130	7
6	90	95	120	135	150	225	270	125	115	135	165	155	170	170	175	185	205	175	235	105	95	100	110	155	8
7	180	115	140	225	190	110	135	165	175	120	95	85	265	145	155	170	175	175	125	100	125	115	110	115	6
8	95	110	105	90	80	100	160	215	255	280	315	320	300	315	305	315	310	310	305	240	150	130	115	140	15
9	150	155	150	150	145	140	130	85	145	130	110	120	110	110	130	135	120	125	120	90	95	100	90	95	6
10	100	90	95	100	120	125	95	100	110	100	90	120	130	130	130	140	115	110	100	115	145	140	130	110	5
11	95	110	135	95	110	115	120	90	100	90	85	85	100	205	160	190	145	135	190	200	200	200	200	200	5
12	210	215	215	215	215	215	215	215	215	215	215	195	150	175	285	230	270	185	180	105	105	120	115	140	11
13	135	115	145	120	140	150	110	95	120	90	70	85	135	160	165	145	165	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	7
14	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	310	30	70	315	85	135	200	170	155	100	5
15	125	110	135	100	85	115	85	70	65	60	65	55	65	60	155	155	160	165	195	165	160	110	145	115	4
16	75	90	95	75	90	110	155	255	275	300	305	305	310	305	305	305	305	320	55	140	130	115	100	100	[VA]
17	135	135	150	155	115	130	155	160	90	75	85	180	315	320	330	320	265	65	145	140	95	75	85	130	7
18	125	145	140	155	165	160	155	150	95	50	55	60	55	310	250	295	220	145	220	300	205	235	280	205	8
19	255	140	120	115	155	150	125	110	100	90	85	80	305	300	35	55	75	70	80	90	80	85	95	105	5
20	90	90	80	300	280	295	300	280	290	285	270	305	315	325	80	45	130	305	125	120	135	100	85	95	14
21	145	120	145	135	110	120	135	140	100	75	85	30	240	60	65	50	75	125	120	95	115	130	115	115	6
22	105	125	150	145	145	160	160	175	150	120	235	320	305	315	315	315	150	140	130	135	135	145	125	115	7
23	125	120	140	135	145	140	130	140	105	90	70	60	95	125	120	95	175	175	125	105	125	130	145	135	6
24	110	130	135	135	125	120	130	140	110	65	75	120	160	155	155	160	155	205	150	110	105	110	110	115	6
25	110	105	125	140	115	135	140	150	130	110	80	160	160	155	155	160	155	160	205	105	150	110	115	110	[VA]
26	105	115	120	120	110	110	130	160	130	100	100	150	155	175	155	180	175	150	140	125	125	80	105	105	6
27	100	95	110	100	95	100	115	155	80	75	125	125	155	155	165	170	160	165	135	210	160	185	250	180	8
28	135	120	150	155	120	125	130	120	100	70	55	50	75	165	170	155	155	130	120	105	95	100	95	95	6
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
PV	7	6	7	7	6	7	7	8	6	5	4	8	8	8	8	8	8	8	6	6	7	6	6	6	6

AOOUT (04 MAY 78)

```
BIVANE WIND SPEED AT LEVEL 1

METERS/SECOND
LEVEL HEIGHT : 10 METERS
                                                                  C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                                       *                   *
                                                                  SITE   23                            *     FINAL DATA    *
                                                                                                       *  AS OF 17/MAY/78  *
                                                                  FEB, 1978                            *                   *
                                                                                                       *********************
                                                                  AEROVIRONMENT INC.


                                                CLOCK HOUR  (LOCAL STANDARD TIME)

DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23   AVE  PEAK

  1  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
  2  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
  3  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
  4  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
  5  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
  6  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
  7  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
  8  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
  9  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     4     3     4     5     4     5
 10     9     5     4     4     5     9     9     8     9    11    11  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     8    11
 11  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 12  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 13  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 14  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 15  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 16  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     9     8     6     3     1     2     1     3     1     4     9
 17     1     1     2     0     1     1     0     0     0     0  [IM]  [IM]  [IM]  [IM]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     1     2
 18  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 19  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 20  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 21  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 22  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 23  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 24  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 25  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 26  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 27  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 28  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ]  [  ]
 29  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
 30  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
 31  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]

 AV     5     3     3     2     3     5     4     4     4     5    11  [  ]  [  ]  [  ]  [  ]     9     8     6     3     1     3     2     3     3     4  [  ]
 SD     4     2     1     2     2     4     4     4     4     5     0  [  ]  [  ]  [  ]  [  ]     0     0     0     0     0     1     1     0     2     2  [  ]

AQOUT     [04 MAY 78]
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```
BIVANE WIND SPEED AT LEVEL 3

METERS/SECOND
LEVEL HEIGHT : 60 METERS                                C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                              *                   *
                                                        SITE   23                             *    FINAL DATA     *
                                                                                              *  AS OF 17/MAY/78  *
                                                        FEB, 1978                             *                   *
                                                                                              *********************
                                                        AEROVIRONMENT INC.


                                 CLOCK HOUR  (LOCAL STANDARD TIME)


DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23    AVE PEAK

  1  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ] [  ]
  2  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ] [  ]
  3  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ] [  ]
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  7  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ] [  ]
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  9  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     4     3     4     5      4    5
 10    10     6     5     4     5     9     9     8     8    10    11  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]      8   11
 11  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ] [  ]
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 13  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ] [  ]
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 16  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     8     7     5     3     1     1     1     1     1      3    8
 17     1     0     0     0     0     0     0     0     0     0     3     7     7     7  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]      2    7
 18  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ] [  ]
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 29  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]   [  ] [  ]
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 31  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]   [  ] [  ]

 AV     5     3     2     2     2     4     4     4     4     5     7     7     7     7  [  ]     8     7     5     3     1     2     2     2     3      4 [  ]
 SD     4     3     2     2     2     4     4     4     4     5     4     0     0     0  [  ]     0     0     0     0     0     1     1     1     2      2 [  ]

ADOUT     (04 MAY 78)
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BIVANE HORIZONTAL WD AT LEVEL 1

DEGREES
LEVEL HEIGHT : 10 METERS                                C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                             *                    *
                                                        SITE   23                            *     FINAL DATA     *
                                                                                             *  AS OF 17/MAY/78   *
                                                        FEB, 1978                            *                    *
                                                                                             **********************
                                                        AEROVIRONMENT INC.


                                       CLOCK HOUR  (LOCAL STANDARD TIME)

DAY    00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23  PREV

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ADOUT    (04 MAY 78)
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BIVANE HORIZONTAL WD AT LEVEL 3

DEGREES
LEVEL HEIGHT : 60 METERS                                C-B OIL SHALE PROJECT, COLORADO    ********************
                                                                                           *                  *
                                                        SITE   23                          *    FINAL DATA    *
                                                                                           *  AS OF 17/MAY/78 *
                                                        FEB, 1978                          *                  *
                                                                                           ********************
                                                        AEROVIRONMENT INC.


                                       CLOCK HOUR  (LOCAL STANDARD TIME)

DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23  PREV

  1  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ]
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 24  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ]
 25  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ]
 26  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ]
 27  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ]
 28  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ]
 29  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [ ]
 30  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [ ]
 31  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [ ]

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AOOUT    [04 MAY 78]
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BIVANE VERTICAL WD AT LEVEL 1

DEGREES
LEVEL HEIGHT : 10 METERS                                   C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                                *                    *
                                                           SITE   23                            *     FINAL DATA     *
                                                                                                *  AS OF 17/MAY/78   *
                                                           FEB, 1978                            *                    *
                                                                                                **********************
                                                           AEROVIRONMENT INC.


                                        CLOCK HOUR  [LOCAL STANDARD TIME]


DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23   PREV

  1  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
  2  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
  3  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
  4  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
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  8  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
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 11  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
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 17  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
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 20  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
 21  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
 22  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
 23  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
 24  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
 25  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
 26  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
 27  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
 28  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ]
 29  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ]
 30  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ]
 31  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ]

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ADOUT    [04 MAY 78]
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BIVANE VERTICAL WD AT LEVEL 3

DEGREES
LEVEL HEIGHT : 60 METERS                              C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                           *                    *
                                                      SITE   23                            *     FINAL DATA     *
                                                                                           *  AS OF 17/MAY/78   *
                                                      FEB, 1978                            *                    *
                                                                                           **********************
                                                      AEROVIRONMENT INC.



                                        CLOCK HOUR  (LOCAL STANDARD TIME)


DAY    00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23  PREV

  1  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
  2  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
  3  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
  4  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
  5  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
  6  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
  7  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
  8  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
  9  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 10  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 11  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 12  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 13  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 14  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 15  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 16  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 17  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 18  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 19  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 20  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 21  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 22  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 23  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 24  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 25  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 26  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 27  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 28  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [  ]
 29  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
 30  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
 31  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]

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ADOUT    [04 MAY 78]
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SIGMA THETA AT LEVEL 2

DEGREES                                                     C-B OIL SHALE PROJECT, COLORADO      **********************
LEVEL HEIGHT : 10 METERS                                                                         *                    *
                                                            SITE   23                            *     FINAL DATA     *
                                                                                                 *  AS OF 17/MAY/78   *
                                                            FEB, 1978                            *                    *
                                                                                                 **********************
                                                            AEROVIRONMENT INC.


                                         CLOCK HOUR  (LOCAL STANDARD TIME)

DAY    00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23    AVE PEAK

  1  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
  2  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
  3  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
  4  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
  5  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
  6  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
  7  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
  8  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
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 11  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 12  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 13  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 14  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 15  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 16  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 17  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 18  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 19  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 20  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 21  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 22  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 23  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 24  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 25  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 26  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 27  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 28  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [ ] [ ]
 29  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [ ] [ ]
 30  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [ ] [ ]
 31  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [ ] [ ]

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 SD  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [ ] [ ]

AOOUT     (04 MAY 78)
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SIGMA THETA AT LEVEL 3

DEGREES
LEVEL HEIGHT : 30 METERS                              C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                           *                    *
                                                      SITE   23                            *     FINAL DATA     *
                                                                                           *  AS OF 17/MAY/78   *
                                                      FEB, 1978                            *                    *
                                                                                           **********************
                                                      AEROVIRONMENT INC,


                                       CLOCK HOUR  (LOCAL STANDARD TIME)

DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23     AVE  PEAK

  1  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
  2  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
  3  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
  4  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
  5  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
  6  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
  7  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
  8  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
  9  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 10  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 11  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 12  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 13  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 14  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 15  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 16  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 17  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 18  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 19  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 20  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 21  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 22  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 23  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 24  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 25  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 26  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 27  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 28  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]    [  ] [  ]
 29  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]    [  ] [  ]
 30  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]    [  ] [  ]
 31  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]    [  ] [  ]

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 SD  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]    [  ] [  ]

ADOUT    (04 MAY 78)
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SIGMA THETA AT LEVEL 4

DEGREES
LEVEL HEIGHT : 60 METERS                              C-B OIL SHALE PROJECT, COLORADO    ********************
                                                                                         *                  *
                                                      SITE   23                          *    FINAL DATA    *
                                                                                         *  AS OF 17/MAY/78 *
                                                      FEB, 1978                          *                  *
                                                                                         ********************
                                                      AEROVIRONMENT INC.


                                       CLOCK HOUR  (LOCAL STANDARD TIME)

DAY     00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23   AVE  PEAK

  1   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
  2   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
  3   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
  4   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
  5   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
  6   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
  7   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
  8   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
  9   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    15    22    20    16    18    22
 10      4    29    27    32    15    10     7     5     5     5     7  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    13    32
 11   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 12   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 13   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 14   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 15   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 16   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)     2     3     4     3     4    11     4     7     6     5    11
 17      8     5     6     5     6     4     6     5     7    13    31    31    31    24  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    13    31
 18   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 19   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 20   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 21   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 22   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 23   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 24   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 25   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 26   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 27   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 28   (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  [  ]  [  ]
 29   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
 30   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
 31   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]

AV       6    17    16    18    10     7     6     5     6     9    19    31    31    24  [  ]     2     3     4     3     4    13    13    13    11    12  [  ]
SD       2    12    10    13     4     3     0     0     1     4    12     0     0     0  [  ]     0     0     0     0     0     2     9     6     5     5  [  ]

AQOUT     (04 MAY 78)
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BIVANE SIGMA THETA AT LEVEL 1

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 17/MAY/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
3	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
4	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
6	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
8	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
9	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	19	25	21	18	21	25
10	8	22	24	32	15	13	7	5	9	8	7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	14	32
11	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
12	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
13	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
14	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
15	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
16	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	6	4	4	2	6	4	5	4	6	5	6
17	3	3	2	4	4	3	15	12	10	6	28	38	36	29	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	14	38
18	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
19	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
20	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
21	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
22	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
23	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
24	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
25	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
26	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
27	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
28	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	5	12	13	18	9	8	11	8	9	7	17	38	36	29	[ ]	6	4	4	2	6	11	15	12	12	13	[ ]
SD	2	9	11	14	5	5	4	3	0	1	10	0	0	0	[ ]	0	0	0	0	0	7	10	8	6	6	[ ]

AQOUT (04 MAY 78)

```
BIVANE SIGMA THETA AT LEVEL 3

DEGREES
LEVEL HEIGHT : 60 METERS                                      C-B OIL SHALE PROJECT, COLORADO        *********************
                                                                                                     *                   *
                                                              SITE   23                              *    FINAL DATA     *
                                                                                                     *  AS OF 17/MAY/78  *
                                                              FEB, 1978                              *                   *
                                                                                                     *********************
                                                              AEROVIRONMENT INC.


                                          CLOCK HOUR  [LOCAL STANDARD TIME]

DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23     AVE  PEAK

  1  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
  2  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
  3  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
  4  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
  5  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
  6  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
  7  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
  8  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
  9  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]    14    21    18    18     18    21
 10     5    23    23    32    14    11     7     4     7     5     7  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     13    32
 11  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 12  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 13  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 14  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 15  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 16  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     3     3     2     3     3     9     5     7     7      5     9
 17     5     4     9     5     6     4     6    10     4    10     9     5     9     5  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]      6    10
 18  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 19  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 20  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 21  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 22  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 23  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 24  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 25  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 26  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 27  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 28  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ]  [  ]
 29  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]   [  ]  [  ]
 30  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]   [  ]  [  ]
 31  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]   [  ]  [  ]

 AV     5    13    16    18    10     7     6     7     5     7     8     5     9     5  [  ]     3     3     2     3     3    11    13    12    12     10  [  ]
 SD     0     9     7    13     4     3     0     3     1     2     1     0     0     0  [  ]     0     0     0     0     0     2     8     5     5      5  [  ]

AQOUT     [04 MAY 78]
```

```
BIVANE SIGMA PHI AT LEVEL 1

DEGREES
LEVEL HEIGHT : 10 METERS                    C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                  *                   *
                                            SITE   23                             *    FINAL DATA     *
                                                                                  *  AS OF 17/MAY/78  *
                                            FEB, 1978                             *                   *
                                                                                  *********************
                                            AEROVIRONMENT INC.


                                CLOCK HOUR  [LOCAL STANDARD TIME]

DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23   AVE  PEAK

  1  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
  2  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
  3  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
  4  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
  5  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
  6  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
  7  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
  8  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
  9  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     8    10    10     8     9   10
 10     7    10    10    11     7     8     6     6     6     6     6  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     8   11
 11  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 12  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 13  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 14  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 15  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 16  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     0     0     0     0     0     0     0     0     0     0    0
 17     0     0     0     0     0     0     0     0     0     0     0     0     0     0  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     0    0
 18  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 19  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 20  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 21  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 22  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 23  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 24  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 25  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 26  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 27  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 28  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [  ] [  ]
 29  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ] [  ]
 30  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ] [  ]
 31  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ] [  ]

 AV     3     5     5     5     3     4     3     3     3     3     3     0     0     0  [  ]     0     0     0     0     0     4     5     5     4     4 [  ]
 SD     3     5     5     5     3     4     3     3     3     3     3     0     0     0  [  ]     0     0     0     0     0     4     5     5     4     4 [  ]

AQOUT    [04 MAY 78]
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```
BIVANE SIGMA PHI AT LEVEL 3

DEGREES
LEVEL HEIGHT : 60 METERS                              C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                           *                   *
                                                      SITE   23                            *     FINAL DATA    *
                                                                                           *  AS OF 17/MAY/78  *
                                                      FEB, 1978                            *                   *
                                                                                           *********************
                                                      AEROVIRONMENT INC.


                                        CLOCK HOUR  (LOCAL STANDARD TIME)

DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23    AVE PEAK

  1  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  2  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  3  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  4  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  5  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  6  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  7  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  8  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  9  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 10  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 11  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 12  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 13  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 14  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 15  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 16  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 17  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 18  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 19  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 20  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 21  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 22  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 23  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 24  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 25  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 26  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 27  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 28  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 29  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ] [  ]
 30  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ] [  ]
 31  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ] [  ]

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 SD  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ] [  ]

AQOUT     (04 MAY 78)
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TEMPERATURE AT LEVEL 2

DEGREES CELSIUS
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC,

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 05/JUN/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-2	-1	-1	-1	0	0	-1	-3	-3	-4	-4	-3	-4	-4	-2	0
3	-5	-6	-6	-6	-6	-6	-6	-6	-5	-5	1	2	2	3	3	3	2	1	0	-1	-1	-1	-1	-1	-2	3
4	-2	-3	-3	-3	-4	-4	-4	-4	-4	-2	5	3	5	6	6	6	6	3	1	1	1	-1	-1	-1	0	6
5	-1	-2	-2	-2	-2	0	-1	-1	1	2	3	6	6	6	6	6	6	2	3	3	3	2	-1	0	2	6
6	1	1	1	1	0	0	0	1	2	2	2	2	2	2	2	2	2	1	-1	-1	-1	-1	-1	-1	1	2
7	-1	-1	-2	-2	-2	-2	-3	-3	-3	-1	0	2	1	2	2	2	0	-1	-1	-1	-1	-1	0	0	-1	2
8	-1	-1	-1	-1	0	-1	-1	-1	-2	-1	-1	-1	-1	-1	0	0	0	-1	-2	-3	-4	-5	-7	-6	-2	0
9	-6	-5	-6	-6	-6	-6	-6	-6	-5	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	0	0	-3	0
10	0	1	1	2	2	1	1	1	2	2	3	3	3	3	3	3	3	3	2	2	2	1	1	0	2	3
11	0	0	-1	-1	-1	-1	-1	-1	-1	-1	0	1	0	0	-1	-2	-2	-3	-3	-5	-5	-6	-6	-6	-2	1
12	-6	-8	-7	-6	-8	-8	-8	-8	-8	-6	-4	-4	-3	-3	-5	-5	-6	-6	-6	-7	-7	-7	-8	-8	-6	-3
13	-8	-8	-8	-8	-8	-8	-8	-8	-8	-6	-4	-4	-3	-3	-2	-3	-3	-3	-4	-5	-6	-7	-6	-6	-6	-2
14	-6	-6	-5	-5	-5	-7	-7	-8	-7	-5	-3	-2	-1	-1	-1	-1	-2	-3	-3	-3	-4	-6	-6	-7	-4	-1
15	-8	-8	-9	-8	-9	-9	-9	-9	-9	-8	-6	-4	-3	-3	-3	-4	-4	-4	-5	-5	-6	-7	-8	-8	-6	-3
16	-9	-9	-8	-9	-9	-9	-9	-9	-9	-9	-9	-8	-7	-6	-6	-6	-7	-7	-8	-9	-9	-11	-11	-11	-8	-6
17	-12	-12	-12	-13	-14	-13	-14	-14	-13	-11	-9	-8	-8	-8	-8	-7	-8	-9	-9	-11	-11	-12	-13	-13	-11	-7
18	-14	-14	-13	-14	-14	-14	-15	-15	-13	-11	-8	-7	-6	-5	-5	-4	-6	-7	-8	-8	-9	-8	-8	-9	-10	-4
19	-9	-9	-9	-9	-9	-11	-11	-12	-11	-9	-7	-6	-6	-5	-4	-3	-4	-6	-6	-5	-4	-4	-4	-5	-7	-3
20	-4	-4	-5	-5	-5	-5	-5	-5	-6	-6	-5	-4	-4	-3	-3	-3	-3	-3	-4	-5	-6	-6	-6	-6	-5	-3
21	-6	-6	-6	-6	-6	-8	-7	-8	-6	-4	-2	1	2	3	3	3	2	1	-1	-1	-1	-3	-3	-3	-3	3
22	-4	-4	-3	-4	-4	-5	-6	-6	-6	-2	2	3	4	5	5	6	5	5	3	1	0	-1	-1	-2	-0	6
23	-3	-3	-1	-1	-1	-3	-4	-3	-2	2	3	4	4	6	6	6	5	3	2	2	0	1	-1	-1	1	6
24	-1	-1	-2	-2	-3	-3	-3	-3	-1	2	3	4	5	5	5	5	4	3	2	1	-1	0	0	0	1	5
25	0	1	0	0	1	1	1	1	2	3	3	4	5	6	5	4	4	3	3	3	3	2	2	3	2	6
26	3	2	2	2	2	2	2	2	2	3	3	4	4	5	5	5	4	3	3	2	2	2	2	2	3	5
27	2	2	2	2	1	1	0	-1	-1	1	1	1	2	2	2	3	2	2	1	0	1	-1	-3	-3	1	3
28	-3	-1	-2	-4	-5	-6	-6	-5	-4	-2	-1	0	0	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-2	1
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	-4	-4	-4	-4	-4	-5	-5	-5	-4	-3	-1	-0	0	1	1	1	-0	-1	-2	-2	-3	-3	-4	-4	-3	[ ]
SD	4	4	4	4	4	4	4	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	[ ]

ADOUT (15 MAY 78)

TEMPERATURE AT LEVEL 3

DEGREES CELSIUS
LEVEL HEIGHT : 30 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 17/MAY/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
2	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
3	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
4	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
5	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
6	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
7	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
8	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
9	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
10	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
11	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
12	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
13	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
14	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
15	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
16	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
17	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
18	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
19	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
20	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
21	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
22	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
23	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
24	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
25	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
26	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
27	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
28	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
SD	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

AQOUT [04 MAY 78]

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TEMPERATURE AT LEVEL 4

DEGREES CELSIUS
LEVEL HEIGHT : 60 METERS                                C-B OIL SHALE PROJECT, COLORADO     **********************
                                                                                            *                    *
                                                        SITE   23                           *     FINAL DATA     *
                                                                                            *  AS OF 17/MAY/78   *
                                                        FEB, 1978                           *                    *
                                                                                            **********************
                                                        AEROVIRONMENT INC.


                                  CLOCK HOUR  (LOCAL STANDARD TIME)

DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23    AVE PEAK

  1 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  2 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  3 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  4 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  5 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  6 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  7 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  8 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  9 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 10 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 11 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 12 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 13 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 14 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 15 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 16 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 17 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 18 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 19 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 20 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 21 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 22 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 23 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 24 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 25 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 26 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 27 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 28 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 29 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]   [ ] [ ]
 30 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]   [ ] [ ]
 31 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]   [ ] [ ]

 AV [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]   [ ] [ ]
 SD [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]   [ ] [ ]

AQOUT     [04 MAY 78]
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TEMPERATURE

DEGREES CELSIUS
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 42

FEB, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 16/MAY/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	-6	-6	-5	-4	-5	-4	-5	-5	-5	-5	-2	3	2	1	4	3	3	2	-1	-3	-6	-6	-6	-7	-3	4
2	-9	-10	-10	-8	-7	-6	-7	-7	-7	-6	-3	-2	0	0	1	0	0	-1	-3	-5	-6	-7	-7	-8	-5	1
3	-8	-8	-8	-8	-8	-9	-9	-9	-8	-5	-1	1	3	3	3	4	4	3	1	-1	-2	-1	-2	-2	-3	4
4	-4	-5	-6	-6	-8	-7	-8	-10	-10	-8	-1	4	5	7	10	10	10	7	3	0	-2	-4	-5	-5	-1	10
5	-9	-8	-8	-7	-8	-8	-6	-4	-3	0	3	6	7	9	8	8	7	6	5	2	2	2	2	0	0	9
6	-2	-2	-2	-2	-2	-1	-1	-1	-1	0	2	4	4	4	3	4	4	2	1	0	1	0	0	0	1	4
7	-4	-4	-3	-3	-4	-4	-4	-5	-4	-2	1	4	4	2	1	0	-1	-2	-3	-4	-3	-3	-2	-1	-2	4
8	-1	-2	-3	-3	-2	-2	-1	-2	-3	-3	-2	-2	-2	0	-1	0	0	-1	-2	-4	-6	-8	-9	-10	-3	0
9	-10	-10	-10	-10	-10	-10	-9	-9	-8	-6	-3	-2	0	-1	-1	0	-1	-1	-2	-2	0	0	0	0	-4	0
10	-2	-2	-2	0	0	1	0	0	0	1	2	3	0	1	-1	-3	-3	-3	-4	-5	-6	-7	-7	-8	-2	3
11	-4	-4	-4	-4	-4	-4	-3	-3	-2	-2	-1	-1	1	1	1	1	1	2	1	2	2	-1	-1	-2	-1	2
12	-8	-8	-9	-9	-9	-10	-11	-11	-10	-6	-2	-2	-2	-2	-4	-5	-6	-7	-6	-7	-7	-8	-9	-9	-7	-2
13	-11	-11	-11	-11	-11	-10	-10	-10	-8	-6	-4	-1	-1	0	0	0	-3	-3	-4	-5	-6	-7	-8	-8	-6	0
14	-9	-9	-9	-8	-8	-8	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-8	-8
15	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
16	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
17	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
18	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
19	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
20	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
21	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
22	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
23	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
24	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	6	7	6	8	7	6	5	4	0	-2	-4	-6	-6	-6	2	8
25	-4	-4	-5	-5	-4	-4	-3	-3	-2	2	5	5	7	7	6	5	4	3	1	1	1	0	-1	0	0	7
26	1	1	0	0	-1	-2	-2	-2	0	1	4	4	6	6	6	5	4	3	2	1	1	0	-1	0	2	6
27	1	0	0	-1	-1	-1	-2	-2	0	0	1	1	2	3	2	3	2	0	-1	-2	-2	-4	-5	-6	-0	3
28	-5	-6	-7	-7	-8	-9	-9	-10	-8	-4	-3	-2	0	2	1	1	0	-1	-3	-3	-3	-3	-4	-3	-4	2
29	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
30	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	-5	-5	-6	-5.	-6	-5	-5	-5	-5	-3	0	2	2	3	3	2	2	1	-1	-2	-3	-3	-4	-4	-2	( )
SD	4	3	3	3	3	3	3	4	3	3	3	3	3	3	4	4	4	3	3	3	3	3	3	4	3	( )

ADOUT (04 MAY 78)

TEMPERATURE

DEGREES CELSIUS
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 56

FEB, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 16/MAY/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	-9	-9	-8	-8	-8	-8	-8	-9	-10	-8	-4	-1	1	1	0	1	2	-2	-5	-7	-8	-10	-10	-11	-6	2
2	-10	-10	-10	-10	-6	-7	-7	-9	-8	-3	0	1	1	2	2	1	1	-3	-5	-8	-9	-10	-9	-10	-5	2
3	-10	-10	-10	-12	-11	-10	-11	-10	-8	-5	-1	2	3	5	5	4	4	1	-2	-4	-5	-5	-5	-5	-4	5
4	-8	-10	-10	-11	-11	-11	-13	-13	-12	-7	-2	3	4	7	8	9	6	2	-2	-5	-7	-8	-9	-10	-5	9
5	-9	-10	-10	-10	-10	-9	-9	-8	-7	-3	-1	1	2	5	7	7	7	2	1	0	-1	0	1	-1	-2	7
6	-3	-2	-2	-3	-2	-3	-1	-1	-2	0	3	4	5	4	4	3	3	3	2	0	-2	-2	-3	-3	0	5
7	-3	-3	-3	-2	-3	-3	-4	-5	-5	-4	-2	2	1	4	4	5	4	3	0	-1	-2	-2	-2	-1	-1	5
8	-2	-2	-2	-2	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-2	-1	0	-1	-1	-2	-6	-7	-9	-11	-3	0
9	-12	-12	-11	-11	-12	-12	-12	-12	-11	-10	-7	-4	-2	-2	-2	0	0	-1	-1	-3	-3	-3	-2	-1	-6	0
10	-2	-2	-2	-1	1	1	1	1	1	1	1	2	2	3	4	4	4	4	4	2	2	1	-1	0	1	4
11	-1	-2	-3	-3	-4	-3	-3	-3	-3	-3	-2	-1	0	1	0	-2	-4	-3	-4	-4	-5	-6	-7	-9	-3	1
12	-7	-11	-10	-10	-10	-12	-13	-13	-13	-9	-4	-1	-2	-3	-4	-5	-6	-6	-6	-6	-6	-7	-8	-10	-8	-1
13	-12	-13	-13	-13	-12	-12	-12	-11	-11	-12	-10	-8	-5	-2	0	-1	0	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-9	0
14	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-2	-3	-4	-4	-7	-8	-8	-8	-11	-12	-7	-2
15	-12	-14	-15	-15	-16	-16	-17	-16	-15	-13	-8	-3	-2	-3	-2	-3	-4	-4	-6	-6	-8	-9	-11	-14	-10	-2
16	-12	-12	-13	-13	-12	-13	-12	-11	-11	-11	-11	-9	-7	-6	-7	-6	-7	-7	-9	-13	-15	-15	-15	-15	-11	-6
17	-15	-17	-19	-20	-20	-21	-22	-22	-22	-17	-13	-10	-8	-8	-8	-7	-8	-9	-12	-12	-15	-17	-16	-18	-15	-7
18	-19	-20	-21	-22	-23	-23	-23	-24	-24	-18	-14	-8	-6	-6	-4	-5	-6	-6	-8	-10	-10	-10	-10	-12	-14	-4
19	-10	-12	-13	-14	-14	-16	-17	-17	-15	-13	-9	-4	-3	-6	-3	-2	-2	-5	-6	-6	-6	-7	-7	-7	-9	-2
20	-7	-7	-7	-7	-8	-8	-8	-8	-8	-7	-6	-6	-7	-7	-7	-5	-3	-4	-5	-6	-6	-7	-8	-8	-7	-3
21	-6	-8	-9	-10	-13	-14	-15	-16	-15	-11	-5	-2	-1	3	5	4	4	1	-3	-6	-8	-9	-12	-14	-7	5
22	-12	-13	-14	-15	-15	-16	-16	-16	-15	-11	-4	-4	0	2	4	5	8	4	-1	-4	-6	-8	-10	-10	-7	8
23	-11	-11	-12	-13	-14	-14	-14	-14	-13	-9	-5	1	6	8	9	9	8	5	2	-2	-4	-6	-7	-8	-5	9
24	-9	-10	-11	-11	-12	-13	-12	-13	-11	-7	-2	4	6	7	7	6	4	3	2	0	-1	-2	-2	-2	-3	7
25	-7	-6	-6	-6	-7	-6	-6	-7	-6	-2	1	4	6	7	7	6	4	3	2	0	-1	-2	-2	-2	-1	7
26	-1	-2	-2	-3	-3	-3	-2	-3	-2	0	1	3	5	8	7	7	6	4	2	0	-1	-1	-3	-1	1	8
27	-1	-2	-2	-2	-2	-2	-2	-3	-3	-2	-2	1	2	2	4	4	3	2	0	-1	-1	-2	-3	-5	-1	4
28	-4	-5	-6	-8	-9	-10	-11	-12	-12	-8	-6	-4	-2	-1	-1	0	-1	-2	-4	-6	-7	-7	-8	-9	-6	0
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	-8	-9	-9	-9	-10	-10	-10	-10	-10	-7	-4	-1	-0	1	1	1	1	-1	-3	-4	-6	-6	-7	-8	-5	[ ]
SD	5	5	5	5	6	6	6	6	6	5	4	4	4	5	5	5	5	4	4	4	4	4	4	5	4	[ ]

ADOUT (04 MAY 78)

DELTA T #2

DEGREES CELSIUS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 17/JUL/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-.3	-.7	-.7	-.7	-.7	-.6	-.1	-.3	-.3	.3	.3	.1	-.1	-.2	-.3	.3
3	-.3	.3	.5	.6	.9	.7	1.0	1.0	1.9	1.0	.2	-.6	-.1	.1	.1	-.1	-.2	-.3	-.2	.1	.5	1.1	-.2	1.0	.4	1.9
4	.9	1.5	1.9	2.3	1.5	1.6	1.8	1.6	2.0	.6	-.2	-.3	-.3	-.3	-.4	-.3	-.3	.3	1.5	.6	1.0	.9	1.0	1.9	.9	2.3
5	1.6	1.8	2.2	1.8	1.4	1.5	1.4	2.2	1.0	.6	-.1	-.5	-.3	-.5	-.5	-.5	-.3	-.1	-.1	.3	.3	-.1	-.5	-.3	.5	2.2
6	-.3	-.5	-.5	-.3	-.5	-.5	-.5	-.4	-.3	-.6	-.6	-.5	-.2	-.6	-.6	-.6	-.6	-.4	-.2	-.1	-.2	-.1	.1	-.3	-.4	.1
7	-.3	-.5	-.3	-.3	.2	.4	.6	-.1	.4	.1	.2	-.1	-.5	-.7	-.6	-.5	-.6	-.5	-.5	-.5	-.5	-.2	-.5	-.5	-.2	.6
8	-.5	-.4	-.2	-.3	-.3	-.3	-.2	-.2	-.6	-.6	-.6	-.4	.0	.2	-.3	-.3	-.5	-.5	-.5	.1	.7	1.8	1.7	1.3	-.0	1.8
9	.6	.8	.8	.3	.6	-.3	-.1	.0	-.3	-.4	-.6	-.9	-.8	-.7	-.6	-.6	-.6	-.5	-.5	-.5	-.3	-.5	-.5	-.3	-.2	.8
10	-.4	-.3	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.5	-.4	-.5	-.4	-.3	-.2	-.5	-.4	-.3	.2	.1	.0	-.4	-.3	-.3	-.3	.2
11	.0	-.2	-.1	-.1	-.1	-.2	.0	-.2	-.3	-.5	-.6	-.6	-.6	-.6	-.1	-.6	-.6	-.6	-.6	-.2	-.1	-.1	.3	.3	-.3	.3
12	-.1	.2	-.1	-.3	.2	.4	.3	.2	.2	-.6	-.8	-.8	-.8	-.7	-.7	-.7	-.7	-.6	-.3	-.2	.0	.3	.6	-.2	-.2	.6
13	.1	.5	.1	.0	.1	.3	.3	.3	.5	-.3	-.6	-.7	-.7	-.8	-.8	-.7	-.7	-.6	-.5	-.4	-.1	.4	.0	.0	-.2	.5
14	.5	.4	-.3	-.3	.2	.0	.2	.0	-.3	-.4	-.6	-.7	-.7	-.7	-.7	-.8	-.7	-.4	-.3	-.4	-.5	-.5	-.3	-.2	-.3	.5
15	.5	.4	.5	.4	.4	.7	1.0	.5	.5	.0	-.7	-.6	-.7	-.7	-.7	-.7	-.5	-.6	-.6	-.5	-.4	-.2	.2	.6	-.0	1.0
16	.1	-.2	-.4	.1	-.3	-.6	-.6	-.5	-.5	-.4	-.3	-.2	-.9	-1.0	-1.1	-.7	-.6	-.6	-.3	-.1	.1	-.2	-.3	.3	-.4	.3
17	.3	-.1	.8	.4	.1	-.1	.5	.2	.1	-.7	-1.0	-1.0	-.9	.3	.3	-.8	-.9	-.8	-.5	-.9	-.2	-.1	.3	.5	-.2	.8
18	.6	1.3	.5	1.6	1.7	1.4	1.8	1.0	.7	-.4	-.9	-.9	-.9	-.8	-.8	-.7	-.7	-.8	-.7	-.7	-.7	-.5	-.7	-.7	-.0	1.8
19	-.6	-.6	-.6	-.7	-.5	.0	-.3	-.2	-.3	-.7	-.9	-.9	-.8	-1.2	-.8	-.7	-.7	-.6	-.3	-.3	.1	-.2	-.2	-.1	-.5	.1
20	.2	-.3	-.6	-.6	-.5	-.5	-.5	-.6	-.6	-.6	-.7	-.8	-.8	-.9	-.9	-.8	-.7	-.6	-.2	-.2	-.2	-.3	-.2	-.2	-.5	.2
21	.0	.3	.6	.3	.9	1.4	.5	1.4	.7	.4	-.2	-.5	-.6	-.6	-.6	-.6	-.5	-.3	1.0	2.0	1.0	1.1	1.7	.4	.4	2.0
22	1.9	2.0	.8	1.4	1.2	1.4	1.2	1.3	2.0	.0	-.3	-.3	-.5	-.3	-.5	-.4	-.3	-.1	.6	1.0	1.6	2.0	.9	.4	.7	2.0
23	2.5	2.2	1.0	1.3	1.5	1.6	2.0	1.7	.5	-.4	-.2	-.4	-.4	-.3	-.4	-.4	-.6	-.2	.2	.2	.2	.8	.8	1.2	.6	2.5
24	.9	.6	1.2	1.1	2.6	2.0	2.0	1.4	1.1	-.1	-.5	-.5	-.4	-.4	-.5	-.5	-.6	-.2	.5	.9	1.1	.9	.7	.6	.6	2.6
25	.6	.3	.4	.4	.3	-.2	-.1	.1	.1	-.3	-.2	-.3	-.1	.1	.5	-.2	-.3	-.3	-.2	-.1	.1	.0	.3	-.1	.0	.6
26	.1	.4	.5	.1	-.2	-.2	-.2	.0	-.5	-.5	-.4	.3	-.1	-.1	.1	.3	-.2	-.3	-.2	-.1	-.1	-.2	-.1	-.2	-.1	.5
27	-.2	-.3	-.3	-.4	-.4	-.3	-.4	-.3	-.3	-.5	-.6	-.3	.5	1.0	.3	.4	.2	-.4	-.4	-.4	-.3	-.4	-.6	-.3	-.2	1.0
28	-.3	-.3	-.2	.1	.8	1.1	1.1	1.4	1.3	-.2	-.7	-.7	-.7	-.6	-.7	-.6	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	.1	1.4
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV.	.3	.4	.3	.3	.4	.4	.5	.4	.3	-.2	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.4	-.1	.0	.1	.2	.2	.2	.0	[ ]
SD	.7	.8	.7	.8	.8	.8	.8	.8	.8	.4	.3	.3	.3	.5	.4	.3	.2	.2	.5	.6	.5	.7	.6	.6	.4	[ ]

ADOUT (15 MAY 78)

RELATIVE HUMIDITY AT LEVEL 1

PERCENT
LEVEL HEIGHT : 1 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 16/MAY/78   *
*                    *
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CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	85	85	81	80	80	83	84	84	85	85	83	77	61	56	47	44	43	55	62	73	76	81	85	87	73	87
2	90	90	89	88	87	85	85	85	83	79	69	65	59	58	57	55	55	59	65	72	75	78	80	80	74	90
3	80	83	85	88	90	92	93	93	92	86	71	[RF]	[RF]	[RF]	[RF]	[RF]	45	46	52	56	59	62	64	64	74	93
4	66	68	70	73	76	83	86	87	86	73	57	48	43	36	31	31	30	35	48	54	58	56	57	62	59	87
5	62	64	66	68	68	68	66	66	64	63	50	45	39	34	34	34	36	38	42	47	51	52	62	82	54	82
6	84	85	84	84	83	83	84	84	84	78	70	64	61	62	64	64	65	69	80	91	92	93	94	95	79	95
7	96	96	96	96	95	94	92	92	93	93	75	57	52	53	52	51	54	59	71	77	81	81	81	89	78	96
8	78	83	85	85	84	80	82	89	91	89	82	74	74	68	59	55	52	54	60	67	74	79	81	83	75	91
9	85	85	84	81	81	80	80	81	80	75	62	56	59	59	59	59	63	70	76	83	83	78	77	77	74	85
10	76	77	78	79	79	79	79	80	80	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	55	58	62	71	78	82	74	82
11	83	84	91	93	93	93	89	87	87	88	85	75	72	69	76	82	82	78	76	76	78	84	80	80	83	93
12	81	85	88	87	84	81	82	83	81	67	57	55	55	55	77	85	88	89	89	89	89	88	88	86	80	89
13	87	87	87	87	87	88	88	87	86	75	62	60	56	52	50	47	50	56	61	64	68	73	79	80	72	88
14	80	82	83	84	84	83	85	88	89	89	84	68	58	54	57	58	59	62	62	63	73	79	87	89	75	89
15	89	89	92	94	94	95	94	93	92	93	93	86	70	55	52	53	58	57	58	62	67	71	[RF]	[RF]	78	95
16	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
17	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	42	45	59	64	73	86	85	86	87	88	71	88
18	90	91	90	90	90	90	90	90	88	75	53	42	40	38	37	38	42	50	76	88	89	90	90	90	73	91
19	90	90	90	90	90	90	90	90	90	83	63	53	53	55	50	50	56	72	80	82	83	81	80	81	76	90
20	82	86	92	93	93	93	93	93	93	93	91	88	79	76	72	67	65	69	76	80	86	89	91	91	85	93
21	93	94	94	94	94	94	93	93	93	84	73	63	52	44	39	39	42	47	57	65	69	69	68	68	72	94
22	70	73	77	80	81	82	85	86	82	67	51	39	38	32	27	25	26	29	38	53	62	63	63	66	58	86
23	67	65	65	65	66	67	67	68	65	56	46	41	39	38	30	30	31	35	42	47	48	49	50	50	51	68
24	51	52	53	55	59	67	77	78	77	62	48	42	36	35	35	37	42	48	57	62	66	67	67	68	56	78
25	67	68	67	65	64	64	65	65	64	59	54	50	47	46	47	47	48	49	50	51	52	53	56	58	56	68
26	60	63	66	69	71	75	75	76	76	74	69	60	55	54	50	47	48	52	57	60	62	63	63	64	63	76
27	67	69	73	76	79	83	84	88	93	84	73	69	64	61	60	57	57	60	63	73	81	87	94	92	74	94
28	88	86	82	82	84	84	84	84	84	82	66	53	47	44	41	42	47	50	55	16	71	74	75	76	67	88
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	79	80	81	82	82	83	84	84	84	78	67	60	55	51	50	50	52	56	62	66	72	74	76	78	71	[ ]
SD	11	11	11	10	10	9	8	8	9	11	13	14	12	12	14	14	14	14	13	16	12	12	12	12	9	[ ]

ADOUT [04 MAY 78]

BAROMETRIC PRESSURE

MM OF HG

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 17/JUL/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(HF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(HF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(HF)	[ ]	[ ]
3	(RF)	(RF)	(RF)	(HF)	(RF)	(RF)	(RF)	(HF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	603	603	603	604	604	604	605	605	605	604	605
4	605	605	606	606	606	606	606	606	607	607	607	607	606	606	606	606	606	606	606	606	606	606	606	605	606	607
5	605	605	605	605	604	604	604	604	604	603	603	602	601	601	600	600	599	599	598	598	598	598	598	597	601	605
6	597	596	596	595	595	595	595	595	595	595	595	595	594	594	593	593	593	593	593	593	593	593	593	593	594	597
7	593	593	593	593	593	593	594	594	594	594	595	595	595	594	594	593	593	593	593	593	593	593	592	592	593	595
8	592	591	591	591	591	590	590	591	591	592	592	592	592	592	593	594	595	596	596	596	596	596	596	596	593	596
9	596	596	596	596	596	596	596	596	596	595	595	595	595	594	594	594	594	595	595	594	594	594	594	594	595	596
10	594	593	593	593	593	593	593	593	593	592	592	591	591	591	590	589	590	589	589	589	589	589	589	589	591	594
11	588	588	587	587	586	586	586	586	586	586	586	586	585	586	586	587	587	587	588	589	589	589	589	589	587	589
12	590	590	590	590	590	590	590	590	591	591	591	592	592	592	592	592	592	593	593	593	593	594	594	594	592	594
13	594	594	594	594	594	594	595	595	595	596	596	595	595	595	595	595	595	595	595	595	595	595	595	595	595	596
14	595	595	595	595	595	595	595	595	595	596	596	596	595	595	595	595	595	595	595	595	595	595	595	595	595	596
15	595	595	595	595	595	595	595	595	595	595	595	595	594	593	593	593	593	593	593	593	593	593	593	593	594	595
16	593	593	593	593	593	593	593	593	594	594	595	595	594	595	595	595	595	595	595	595	596	596	596	596	594	596
17	597	597	597	597	597	597	597	598	598	598	598	598	598	598	598	598	598	598	598	598	598	598	599	599	598	599
18	599	599	599	599	599	599	599	600	600	600	600	600	600	600	599	599	598	598	598	598	598	598	598	599	599	600
19	599	599	599	599	599	599	600	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(HF)	(RF)	(HF)	(RF)	(RF)	(RF)	599	600
20	(RF)	(RF)	(RF)	(RF)	(RF)	(HF)	(HF)	(RF)	(RF)	(RF)	602	602	603	603	603	603	603	603	603	604	604	604	605	605	603	605
21	605	605	605	605	605	605	606	606	606	606	606	606	605	605	605	605	605	604	605	605	605	605	605	605	605	606
22	605	605	605	605	605	605	605	605	605	605	605	606	606	605	605	604	605	605	605	605	605	605	605	605	605	606
23	605	605	605	604	604	604	604	604	604	604	604	604	603	603	602	602	601	601	601	601	601	601	601	601	603	605
24	601	601	601	600	600	600	600	600	600	600	600	599	598	598	598	598	598	599	599	599	599	599	599	599	599	601
25	599	599	599	599	599	599	599	600	600	600	600	600	600	600	599	599	599	599	599	599	599	599	599	599	599	600
26	599	599	598	598	598	598	598	598	598	599	598	598	598	597	597	596	596	596	596	595	595	595	595	595	597	599
27	595	595	595	594	594	594	594	594	594	593	593	593	593	593	592	592	592	592	592	593	593	594	594	594	593	595
28	595	595	595	596	596	596	596	596	597	597	597	597	597	596	596	596	596	596	596	596	596	595	595	595	596	597
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	597	597	597	597	597	597	597	597	597	597	598	597	597	597	597	597	597	597	597	597	597	597	597	597	597	[ ]
SD	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	[ ]

AQOUT (15 MAY 78)

PRECIPITATION
CM*100

CB-TRACT
TRAILER AB23
FEB 1978
OCCIDENTAL OIL SHALE INC.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TL	PEAK
1																									( )	
2																									( )	
3																									( )	
4																									( )	
5																									( )	
6																									( )	
7	(TR)	3																						(TR)	3	3
8							5		(TR)																5	5
9																									( )	
10																									( )	
11		(TR)	3	3	13	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3	3	3	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	25	13
12	5	3	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3	23	13	5	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	51	23
13	(TR)	(TR)	(TR)	3	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3											5	3
14																									( )	
15																									( )	
16																									( )	
17														3											3	3
18																			15	10	13	8	(TR)	3	48	15
19	(TR)	(TR)	3																						3	3
20		5	8	10	8	3	5	3	3	8	3	(TR)	3								3	3	3	3	66	10
21	(TR)																								( )	
22																									( )	
23																									( )	
24																									( )	
25																									( )	
26																				3					3	3
27								(TR)	3	(TR)	(TR)	3									10	30	8		53	30
28																									( )	
TL	5	10	13	15	20	3	10	3	5	8	3	3	3	10	25	15	5	( )	15	13	25	41	10	5	264	
PK	5	5	8	10	13	3	5	3	3	8	3	3	3	3	23	13	5		15	10	13	30	8	3		30

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           PRECIPITATION                                                                    CB-TRACT
           CM*100                                                                                   TRAILER AB20
                                                                                                             FEB  1978
                                                                                                            OCCIDENTAL OIL SHALE INC.


                                                               HOUR (LOCAL STANDARD TIME)

DAY    1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16    17    18    19    20    21    22    23    24    TL PEAK


 1                                                                 3  (TR)     3                                                                       5    3
 2                                                  (TR)  (TR)     3                                                                                   3    3
 3                                                  (TR)  (TR)                                                                                      (  )
 4                                                  (TR)  (TR)  (TR)                                                                                (  )
 5                                                              (TR)  (TR)                                                                          (  )
 6                                                  (TR)  (TR)     3                                                                                   3    3
 7        (TR)     3                                               3     3                                                                             8    3
 8                                                           5  (TR)     3                                                                             8    5
 9                                                                                                                                                  (  )
10                                                        (TR)  (TR)  (TR)  (TR)  (TR)     3                                                           3    3
11                             8     3                                (TR)     3  (TR)     3  (TR)  (TR)     3  (TR)                                  18    8
12        (TR)                                            (TR)  (TR)        (TR)     5     5    10     3  (TR)     3                                  25   10
13                                              (TR)  (TR)  (TR)  (TR)  (TR)  (TR)  (TR)     3                                                           3    3
14                                                                                                                                                  (  )
15                                                                                                                                                  (  )
16                                                                                                                                                  (  )
17                                                                                                                                                  (  )
18                                                                                                                         5     8    10     8     3    33   10
19  (TR)     3                                                                                                                                         3    3
20              (TR)    10     8     8     5     5  (TR)     3     3     3     3  (TR)     3     3                                               3    53   10
21     3     3  (TR)                                                                                                                                   5    3
22                                                                                                    (TR)     3                                       3    3
23                                                                                              (TR)  (TR)  (TR)     3                                 3    3
24                                                                                                                                                  (  )
25                                                                                                    (TR)  (TR)  (TR)  (TR)  (TR)  (TR)  (TR)  (TR)  (  )
26  (TR)  (TR)  (TR)  (TR)  (TR)  (TR)  (TR)     3                                              (TR)  (TR)  (TR)  (TR)  (TR)     3  (TR)  (TR)  (TR)     5    3
27  (TR)  (TR)  (TR)  (TR)  (TR)  (TR)  (TR)     3                                                          (TR)  (TR)     3    10    10  (TR)  (TR)    25   10
28  (TR)  (TR)  (TR)  (TR)  (TR)  (TR)  (TR)  (TR)  (TR)     3     5                                      (TR)  (TR)  (TR)  (TR)  (TR)  (TR)  (TR)     8    5


TL     3     5     3    10    15    10     5    10  (  )    10    18     8     8     5    15    13     3     5     5     8    20    20     8     5   211
PK     3     3     3    10     8     8     5     5           5     5     3     3     5     5    10     3     3     3     5    10    10     8     3         10




     (02/13/80-PPI)
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SOLAR RADIATION (SKY ONLY)

LANGLEY

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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*                     *
*     FINAL DATA      *
*  AS OF 16/MAY/78    *
*                     *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	TOT	PEAK
1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
2	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
3	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	40	26	10	2	10	2	0	0	0	0	0	0	0	0	90	40
4	0	0	0	0	0	0	0	6	19	33	43	50	53	46	38	21	8	2	0	0	0	0	0	0	319	53
5	0	0	0	0	0	0	0	3	13	22	25	35	28	22	22	14	5	2	0	0	0	0	0	0	191	35
6	0	0	0	0	0	0	0	2	14	36	43	47	46	25	25	17	5	1	0	0	0	0	0	0	261	47
7	0	0	0	0	0	0	0	2	15	37	41	62	56	42	36	24	7	1	0	0	0	0	0	0	323	62
8	0	0	0	0	0	0	0	2	4	21	16	29	35	23	25	16	5	2	0	0	0	0	0	0	178	35
9	0	0	0	0	0	0	0	3	7	8	20	35	20	21	14	9	2	1	0	0	0	0	0	0	140	35
10	0	0	0	0	0	0	0	2	16	13	19	22	25	36	28	18	4	0	0	0	0	0	0	0	183	36
11	0	0	0	0	0	0	0	1	4	11	16	18	17	19	8	9	6	2	0	0	0	0	0	0	111	19
12	0	0	0	0	0	0	0	4	11	19	23	20	50	23	15	7	4	2	0	0	0	0	0	0	178	50
13	0	0	0	0	0	0	0	4	17	22	28	50	49	52	45	24	7	2	0	0	0	0	0	0	300	52
14	0	0	0	0	0	0	0	3	16	26	41	43	38	26	28	15	7	2	0	0	0	0	0	0	245	43
15	0	0	0	0	0	0	0	2	6	14	23	26	29	28	29	19	9	3	0	0	0	0	0	0	188	29
16	0	0	0	0	0	0	0	3	13	26	43	43	53	40	37	13	10	3	0	0	0	0	0	0	284	53
17	0	0	0	0	0	3	8	13	26	35	43	45	53	48	49	48	14	2	0	0	0	0	0	0	387	53
18	0	0	0	0	0	0	0	11	28	46	62	60	64	64	38	19	10	2	0	0	0	0	0	0	404	64
19	0	0	0	0	0	0	0	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	0	0
20	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
21	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	68	65	59	49	34	20	5	0	0	0	0	0	0	300	68
22	0	0	0	0	0	0	0	4	21	35	49	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	109	49
23	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
24	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	52	59	63	56	50	37	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	317	63
25	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
26	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
27	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
28	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
TT	0	0	0	0	0	3	8	65	230	404	627	738	754	632	546	346	123	32	0	0	0	0	0	0		[ ]

ADOUT [04 MAY 78]

MIXING HEIGHT

METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

FEB, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*   AS OF 16/MAY/78  *
*                    *
**********************
```

CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	30	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
2	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
3	30	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
4	30	30	30	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
5	30	30	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	[RF]	[RF]	30	30
6	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
7	[RF]	[RF]	[RF]	[RF]	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	30	30	30	30
8	30	30	30	30	30	30	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
9	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	30	30
10	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
11	30	30	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30
12	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[RF]	[RF]	[RF]	[RF]	30	30	30	30	30
13	30	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
14	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
15	30	30	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30
16	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30
17	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
18	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	[RF]	[RF]	[RF]	[RF]	[RF]	30	30
19	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
20	30	30	30	30	30	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	30	30
21	[RF]	[RF]	[RF]	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
22	30	30	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
23	30	30	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30	30
24	30	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	30	30	30	30	30	30
25	30	30	30	30	30	30	30	30	30	30	30	30	[OS]	[OS]	[OS]	[OS]	[OS]	30	30	[RF]	[RF]	[RF]	[RF]	[RF]	30	30
26	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
27	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
28	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	30	30	30	30	30	30	30	30	30	30	30	30	30	[ ]	[ ]	[ ]	30	30	30	30	30	30	30	30	30	[ ]
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	[ ]	[ ]	[ ]	0	0	0	0	0	0	0	0	0	[ ]

ADOUT [04 "AY 78]

INVERSION HEIGHT

METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

FEB, 1978

AEROVIRONMENT INC.

****
* FINAL DATA *
* AS OF 16/MAY/78 *
****

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	150	120	110	110	110	100	110	120	110	100	60	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	80	190	240	330	260	260	240	156	330
2	220	220	210	170	120	110	120	120	120	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	160	370	360	350	350	340	340	230	370
3	340	340	350	350	330	300	310	350	320	310	220	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	50	80	130	120	120	120	130	237	350
4	140	170	180	200	220	200	220	220	210	180	130	60	60	[NV]	[NV]	[NV]	[NV]	70	150	160	180	130	150	140	158	220
5	140	150	130	150	140	130	110	120	130	100	70	70	[NV]	[NV]	[NV]	[NV]	40	70	90	80	100	100	[RF]	[RF]	107	150
6	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
7	[RF]	[RF]	[RF]	[RF]	70	110	120	90	100	60	60	40	[NV]	[NV]	[NV]	[NV]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	100	40	79	120
8	[RF]	[RF]	80	100	90	70	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[NV]	[NV]	[NV]	[NV]	[NV]	40	80	130	190	190	240	200	128	240
9	140	150	150	140	120	110	120	120	90	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	127	150
10	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[NV]	[NV]	[NV]	[NV]	[NV]	50	120	170	140	130	180	190	140	190
11	170	220	150	180	160	220	220	190	200	210	280	140	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	30	80	140	230	190	210	179	280
12	140	230	170	170	200	230	170	170	140	70	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[RF]	[RF]	[RF]	[RF]	140	150	130	162	230
13	150	130	120	140	160	150	140	160	150	180	130	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	40	80	130	130	120	160	140	134	180
14	110	90	110	90	90	130	220	170	170	90	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	90	150	200	170	210	210	150	144	220
15	150	210	210	200	210	170	180	170	160	150	160	130	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	60	170	200	140	230	190	172	230
16	190	210	180	140	190	210	180	120	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	70	160	200	170	150	150	166	210
17	170	180	230	240	230	230	200	200	120	80	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	60	160	200	160	160	170	160	174	240
18	190	210	200	190	200	190	210	240	190	160	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	90	160	90	[RF]	[RF]	[RF]	[RF]	[RF]	178	240
19	80	90	100	110	120	130	110	80	100	50	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	60	170	220	220	180	160	190	128	220
20	150	120	120	150	180	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	144	180
21	[RF]	[RF]	[RF]	100	100	120	130	140	140	120	80	110	[NV]	[NV]	[NV]	[NV]	[NV]	50	110	110	120	100	110	150	112	150
22	110	130	120	120	120	100	120	120	120	80	40	80	[NV]	[NV]	[NV]	[NV]	[NV]	60	100	130	160	140	110	110	109	160
23	110	130	150	150	120	150	140	120	120	70	50	30	[NV]	[NV]	[NV]	[NV]	[NV]	60	70	110	100	100	90	100	104	150
24	80	90	100	110	100	90	90	100	70	50	30	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	50	80	90	110	120	110	86	120
25	90	80	70	80	70	80	90	80	80	80	50	[NV]	[NV]	[NV]	[NV]	[NV]	[NV]	50	40	[RF]	[RF]	[RF]	[RF]	[RF]	72	90
26	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
27	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
28	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	151	163	154	154	150	151	158	152	142	119	105	82	60	[ ]	[ ]	[ ]	65	72	113	159	172	162	171	162	140	[ ]
SD	56	63	62	59	61	58	55	62	55	66	73	38	0	[ ]	[ ]	[ ]	25	36	73	67	70	63	62	61	40	[ ]

AQOUT [04 MAY 78]

```
STABILITY TYPE AT LEVEL 1

0=STABLE, 1=UNSTABLE
LEVEL HEIGHT : 50 METERS                    C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                  *                   *
                                             SITE   20                            *     FINAL DATA    *
                                                                                  *  AS OF 16/MAY/78  *
                                             FEB, 1978                            *                   *
                                                                                  *********************
                                             AEROVIRONMENT INC.


                              CLOCK HOUR  [LOCAL STANDARD TIME]

DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23  PREV

  1    0    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    0    0    0    0    0    0    0     1
  2    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    1    1    0    0    0    0    0    0    0     1
  3    0    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    0    0    0    0    0    0    0     1
  4    0    0    0    0    0    0    0    0    0    0    0    0    0    1    1    1    1    0    0    0    0    0    0    0     1
  5    0    0    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    0    0    0    0    0 [RF] [RF]     1
  6 [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF]  [  ]
  7 [RF] [RF] [RF] [RF]    0    0    0    0    0    0    0    1    1    1    1    1 [RF] [RF] [RF] [RF] [RF] [RF]    0    1     1
  8 [RF] [RF]    0    0    0    0 [RF] [RF] [RF] [RF] [RF] [RF]    1    1    1    1    1    1    0    0    0    0    0    0     1
  9    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    1    1 [RF] [RF] [RF] [RF] [RF] [RF] [RF]     1
 10 [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF]    1    1    1    1    1    1    0    0    0    0    0    0     1
 11    0    0    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    1    0    0    0    0    0     1
 12    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    1 [RF] [RF] [RF] [RF]    0    0    0     1
 13    0    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    1    0    0    0    0    0    0     1
 14    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    1    0    0    0    0    0    0    0     1
 15    0    0    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    0    0    0    0    0    0     1
 16    0    0    0    0    0    0    0    0    1    1    1    1    1    1    1    1    1    1    0    0    0    0    0    0     1
 17    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    1    0    0    0    0    0    0    0     1
 18    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    0    0    0 [RF] [RF] [RF] [RF] [RF]     1
 19    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    1    0    0    0    0    0    0    0     1
 20    0    0    0    0    0 [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF]     1
 21 [RF] [RF] [RF]    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    0    0    0    0    0    0     1
 22    0    0    0    0    0    0    0    0    0    0    1    0    1    1    1    1    1    0    0    0    0    0    0    0     1
 23    0    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    0    0    0    0    0    0    0     1
 24    0    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    0    0    0    0    0    0    0     1
 25    0    0    0    0    0    0    0    0    0    0    0    1    1    1    1    1    1    0    1 [RF] [RF] [RF] [RF] [RF]     1
 26 [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF]  [  ]
 27 [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF]  [  ]
 28 [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF] [RF]  [  ]
 29 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ]
 30 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ]
 31 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ]

 PV    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1     1

ABOUT    [04 MAY 78]
```

STABILITY TYPE AT LEVEL 2

0=STABLE, 1=UNSTABLE
LEVEL HEIGHT :200 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

FEB, 1978

AEROVIRONMENT INC.

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*********************
*                   *
*    FINAL DATA     *
*  AS OF 16/MAY/78  *
*                   *
*********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1
2	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	1	1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	[RF]	[RF]	1
6	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
7	[RF]	[RF]	[RF]	[RF]	1	1	1	1	1	1	1	1	1	1	1	1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	1	1	1
8	[RF]	[RF]	1	1	1	1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	1	1	1	1	1	1	1	1	1	1	0	1	1
9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	1
10	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	1	1	1	1	1	1	1	1	1	1	1	1	1
11	1	0	1	1	1	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	0	1
12	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	[RF]	[RF]	[RF]	[RF]	1	1	1	1
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1
15	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
16	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	1	0	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	[RF]	[RF]	[RF]	[RF]	[RF]	1
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1
20	1	1	1	1	1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	1
21	[RF]	[RF]	[RF]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	[RF]	[RF]	[RF]	[RF]	[RF]	1
26	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
27	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
28	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
PV	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

AQOUT [04 MAY 78]

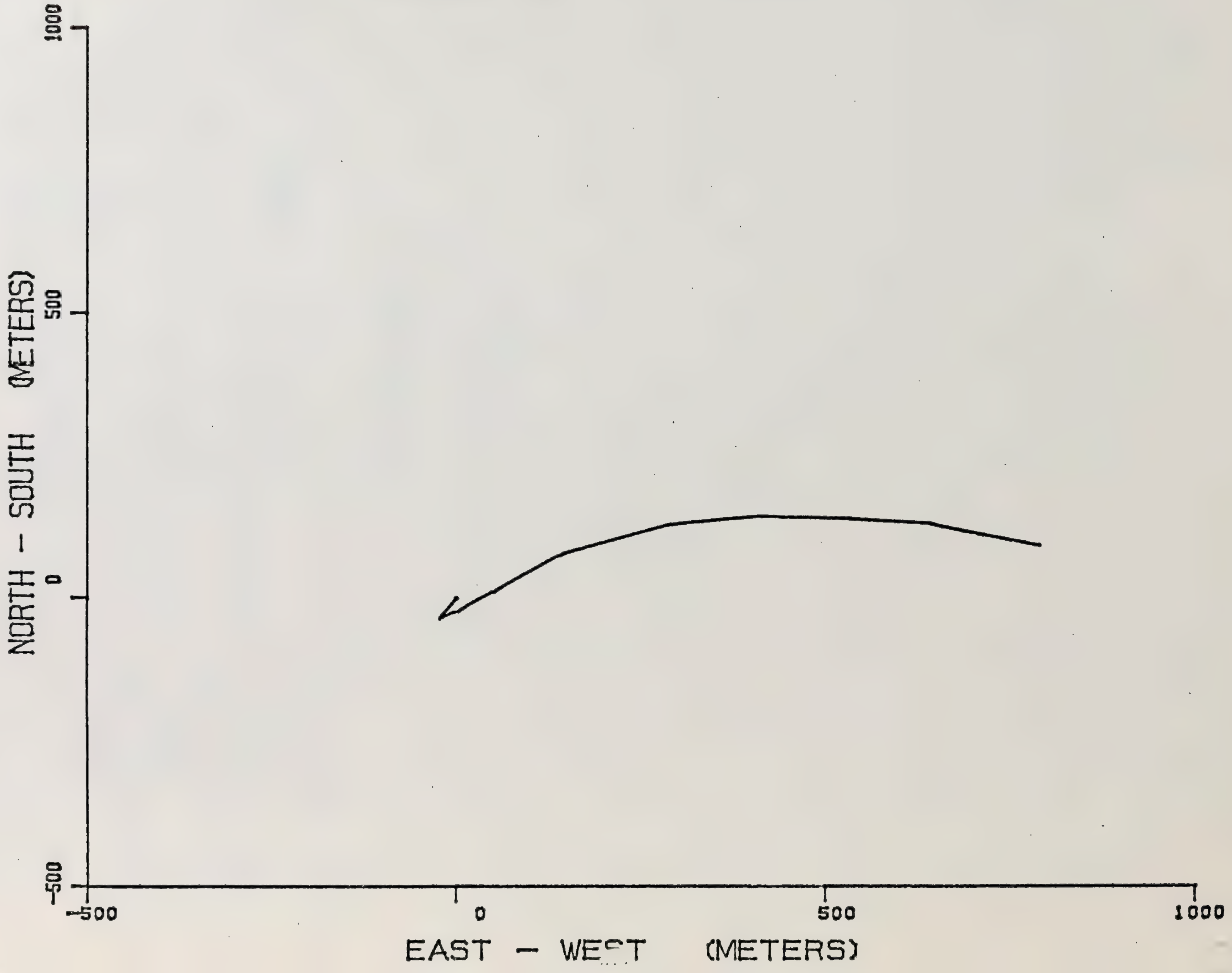
```
C-B PIBAL SOUNDING                    RUN ON 11/MAY/78

SOUNDING DATE  2- 1-78

BALLOON RELEASED  830 CST

BASE LINE ANGLE               78.4
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)       -100.0

                THEODOLITE #1            THEODOLITE #2

    TIME      AZIMUTH  ELEVATION      AZIMUTH  ELEVATION    TEMP
     .0           .0         .0        258.5         .0
     .5        210.2       63.1        257.6        3.8
    1.0        173.2       82.2        257.6        7.0
    1.5         81.1       78.8        258.8       10.5
    2.0         62.5       64.8        260.4       14.0
    2.5         66.7       54.7        261.5       19.4
    3.0         71.0       50.8        261.0       24.6
    3.5         75.5       48.3        260.0       30.0
    4.0         78.1       47.1        258.2       35.7
    4.5         82.7       45.6        253.5      '43.6
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      18.2        5.1
     2       3.1        5.3
     3      40.4        5.5
     4      21.6        5.6
     5      25.0        5.7
     6       5.3        5.9
     7       6.7        6.1
     8      27.6        6.3
     9      56.7        6.7

          HEIGHT  DIRECTION  SPEED  TEMP
           FEET    DEGREES   FT/SEC

           263.      354       1.3
           573.      238       4.7
           882.      234       9.5
          1139.      243      14.6
          1473.      256      15.1
          1757.      267      13.1
          2022.      273      12.3
          2298.      281      14.3

          HEIGHT  DIRECTION  SPEED  TEMP
          METERS   DEGREES   M/SEC

            80.      354        .4
           175.      238       1.4
           269.      234       2.9
```

347.	243	4.5
449.	256	4.6
536.	267	4.0
616.	273	3.7
701.	281	4.4

C–B SOUNDING – PLOTTED ON 11/MAY/78

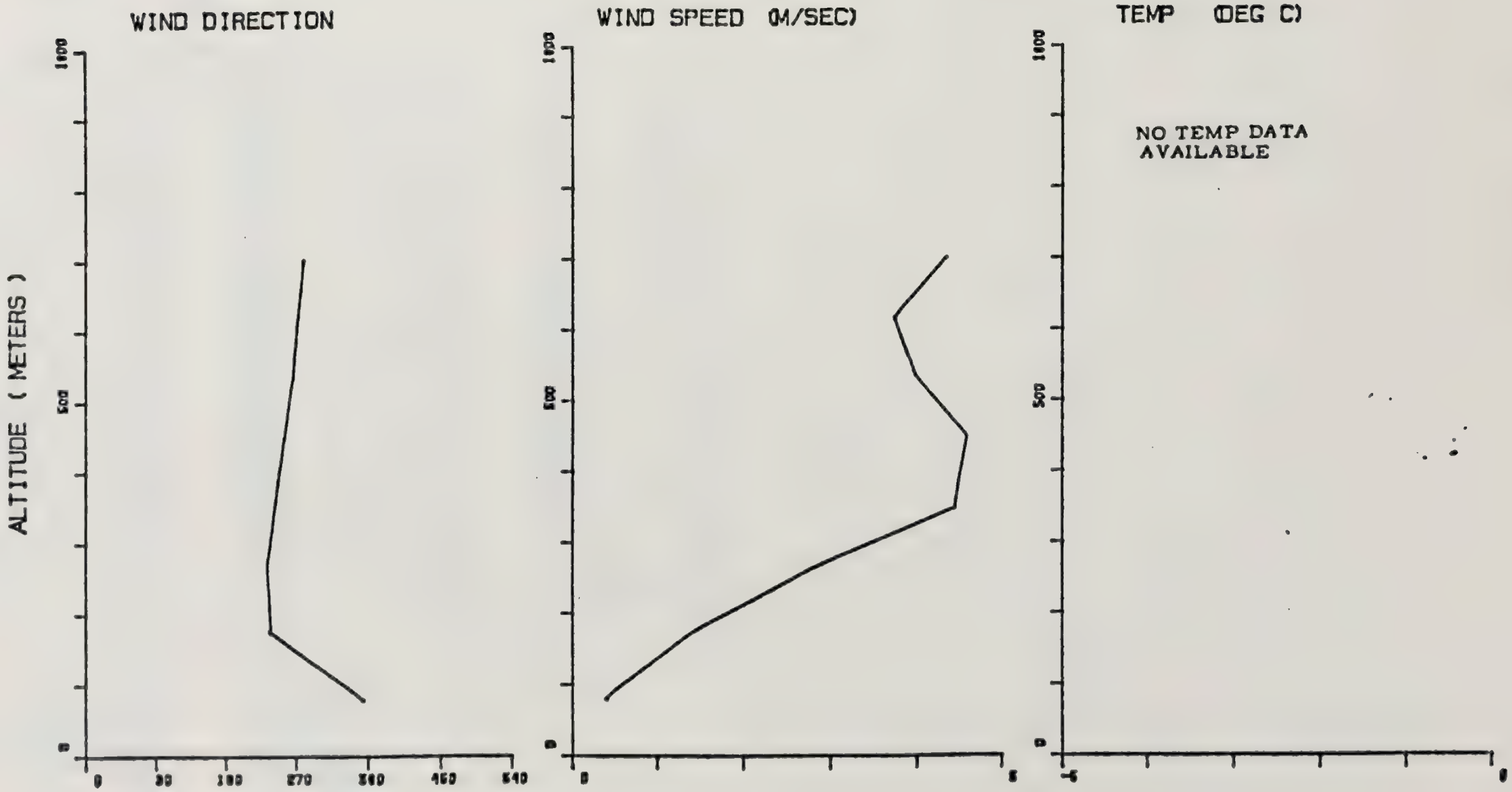
TIME 830 DATE 2/ 1/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 11/MAY/78

TIME 850 DATE 2/ 1/78



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C-B PIBAL SOUNDING                         RUN ON 10/MAY/78

SOUNDING DATE  2- 1-78

BALLOON RELEASED 1400 CST

BASE LINE ANGLE            78.4
BASE LINE LENGTH (FT)    5473.5
TIME INTERVAL (SEC)        30.0
BASE LINE HEIGHT (FT)    -100.0

                THEODOLITE #1             THEODOLITE #2

    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
      .0           .0         .0          258.5         .0      .0
      .5        128.3       35.2          254.9        3.5     4.3
     1.0        128.0       42.3          251.8        8.1     3.8
     1.5        131.7       47.3          248.5       13.0     3.4
     2.0        133.6       48.4          244.1       18.6     2.9
     2.5        132.4       48.4          240.0       23.6     2.6
     3.0        131.4       49.3          237.6       27.3     2.2
     3.5        129.8       50.7          234.4       32.5     1.8
     4.0        127.4       51.5          232.8       36.6     1.3
     4.5        123.7       53.7          231.5       40.6      .9
     5.0        117.2       54.9          231.8       46.1      .5
     5.5        117.5       55.1          232.2       53.2      .2
     6.0        102.4       54.8          232.0       58.1     -.3
     6.5         98.6       52.5          223.8       64.0     -.7
     7.0         98.8       49.8          209.7       67.4    -1.1
     7.5         99.0       47.7          192.9       69.3    -1.5
     8.0        101.1       45.1          170.4       68.7    -2.0
     8.5        102.2       42.4          156.8       64.4    -2.3
     9.0        104.3       40.1          150.2       60.5    -2.7
     9.5        106.5       38.2          143.7       54.6    -3.1
    10.0        109.0       36.1          141.2       49.5    -3.6
    10.5        112.6       33.5          140.0       44.7    -4.1
    11.0        114.5       32.1          139.0       41.9    -4.5
    11.5        116.5       30.5          138.4       38.1    -4.9
    12.0        117.6       29.3          137.7       35.9    -5.5
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO       ERROR

     1       58.0        5.0
     2       51.7        5.3
     3       67.8        5.7
     4       69.2        6.3
     5       69.2        6.8
     6       62.7        7.1
     7       55.0        7.7
     8        5.0        8.1
     9       68.5        8.5
    10       10.6        8.8
    11      418.7        9.6
    12       12.8        9.5
    13       87.4       10.1
    14      123.0       10.7
    15      158.4       11.5
```

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16        68.5        12.8
17       196.7        13.7
18       153.0        14.5
19       319.6        16.3
20       399.7        17.8
21       279.4        19.8
22       240.0        21.5
23       370.3        23.7
24       369.8        25.6

     HEIGHT   DIRECTION   SPEED   TEMP
      FEET     DEGREES    FT/SEC

       260.       309      12.0    4.3
       646.       315      10.6    3.8
      1074.       320      11.5    3.4
      1554.       314      12.8    2.9
      1970.       307       9.9    2.6
      2287.       301       8.5    2.2
      2751.       290       8.2    1.8
      3083.       266       6.4    1.3
      3455.       239       8.6     .9
      3826.       247       9.8     .5
      4418.       231      15.0     .2
      4507.       239      19.9    -.3
      4840.       273      19.7    -.7
      5093.       282      20.4   -1.1
      5388.       287      25.4   -1.5
      5851.       292      28.8   -2.0
      5991.       299      25.3   -2.3
      6100.       303      31.6   -2.7
      6496.       307      37.6   -3.1
      6684.       314      40.8   -3.6
      6943.       315      40.9   -4.1
      7232.       314      41.4   -4.5
      7491.       314      43.0   -4.9

     HEIGHT   DIRECTION   SPEED   TEMP
     METERS    DEGREES    M/SEC

        79.       309       3.7    4.3
       197.       315       3.2    3.8
       327.       320       3.5    3.4
       474.       314       3.9    2.9
       600.       307       3.0    2.6
       697.       301       2.6    2.2
       838.       290       2.5    1.8
       940.       266       2.0    1.3
      1053.       239       2.6     .9
      1166.       247       3.0     .5
      1347.       231       4.6     .2
      1374.       239       6.1    -.3
      1475.       273       6.0    -.7
      1552.       282       6.2   -1.1
      1642.       287       7.7   -1.5
      1784.       292       8.8   -2.0
      1826.       299       7.7   -2.3
      1859.       303       9.6   -2.7
```
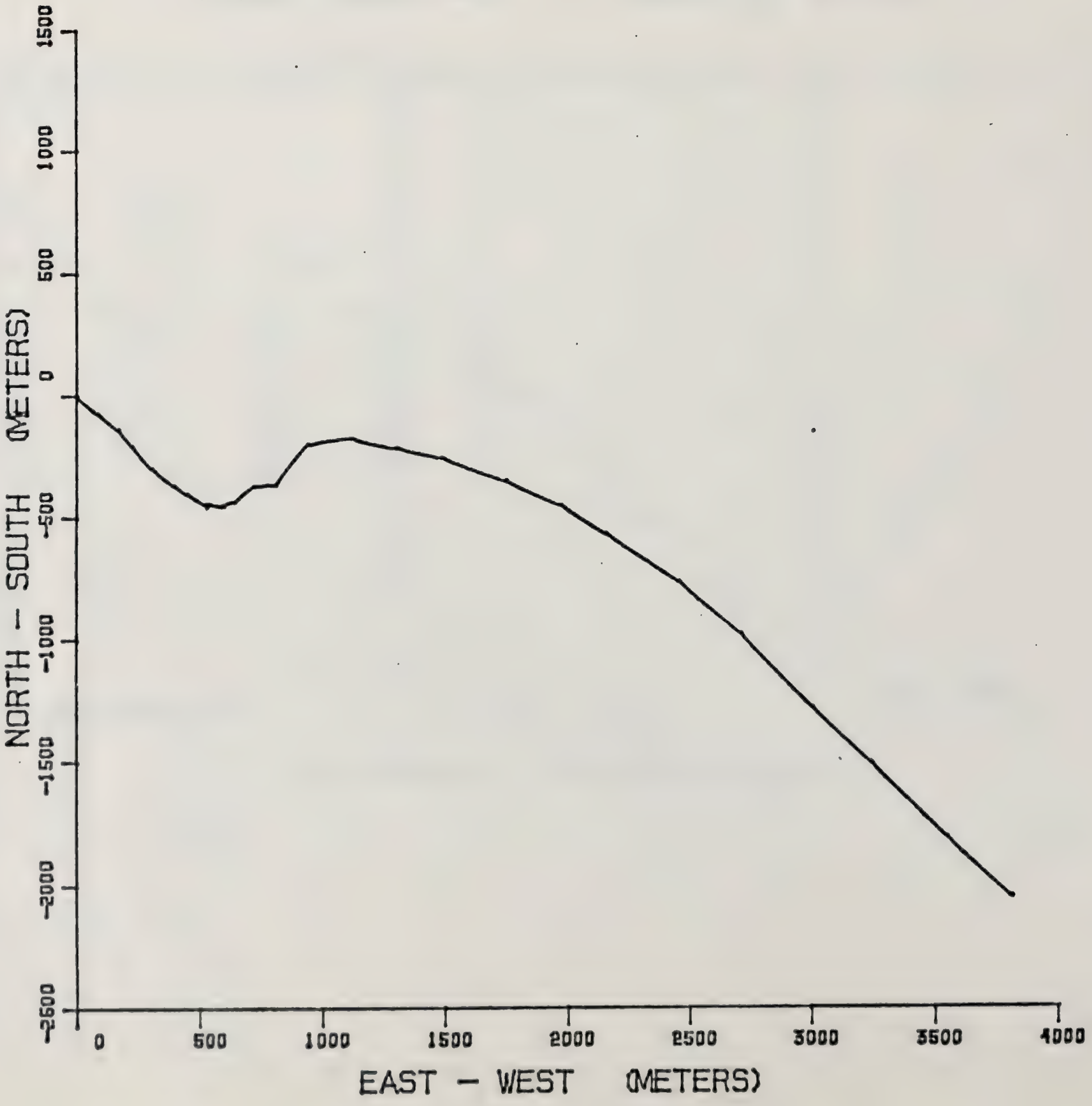

```
1980.     307     11.5  -3.1
2037.     314     12.4  -3.6
2116.     315     12.5  -4.1
2204.     314     12.6  -4.5
2283.     314     13.1  -4.9
```

C-B SOUNDING - PLOTTED ON 10/MAY/78

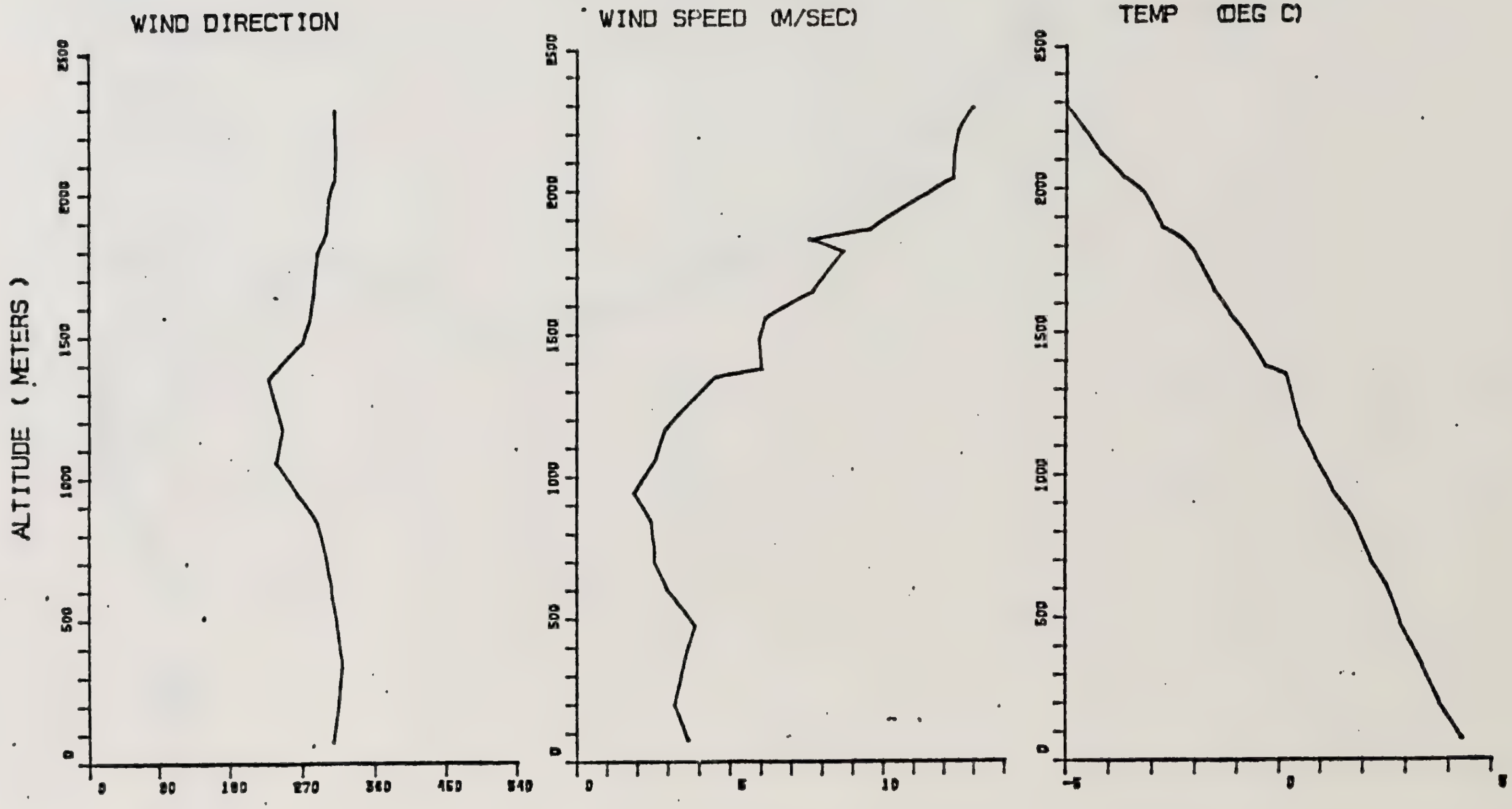
TIME 1400 DATE 2/ 1/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 10/MAY/78

TIME 1400 DATE 2/ 1/78



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C-B PIBAL SOUNDING                               RUN ON 11/MAY/78

SOUNDING DATE  2- 3-78

BALLOON RELEASED  820 CST


BASE LINE ANGLE              78.4
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)      -100.0
                THEODOLITE #1              THEODOLITE #2


    TIME       AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0            .0         .0          258.5         .0       .0
     .5         278.2       42.8          259.5        2.3     -4.8
    1.0         332.2       50.9          263.0        5.4     -6.6
    1.5         358.7       39.1          270.0       10.7     -9.1
    2.0          13.5       26.6          280.0       12.1     -11.
    2.5          21.5       24.7          291.3       16.8     -12.
    3.0          28.6       23.5          300.8       21.4     -13.
    3.5          34.2       23.3          310.6       26.1     -13.
    4.0          38.5       23.2          315.8       28.6     -14.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO        ERROR

      1      53.6         5.1
      2      86.1         5.5
      3      20.9         6.0
      4      38.1         6.4
      5      70.5         7.0
      6      55.2         7.4
      7      76.7         7.9
      8     133.4         7.9


          HEIGHT  DIRECTION  SPEED  TEMP
           FEET    DEGREES   FT/SEC

           143.      153       6.6  -4.8
           477.      186      18.2  -6.6
           905.      202      28.7  -9.1
           990.      213      33.0 -11.4
          1328.      225      30.4 -12.3
          1573.      237      26.6 -12.6
          1828.      249      19.6 -12.9


          HEIGHT  DIRECTION  SPEED  TEMP
          METERS   DEGREES   M/SEC

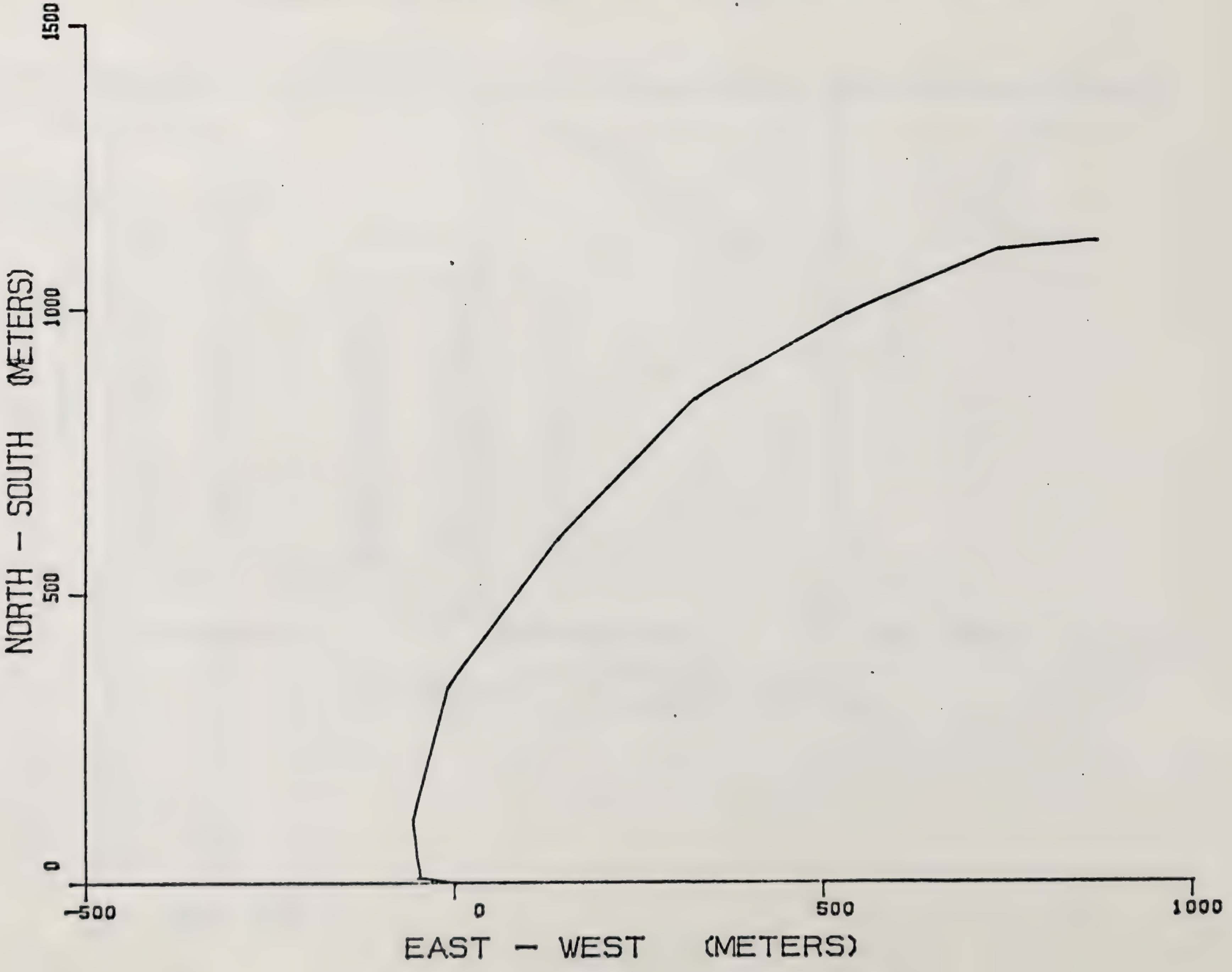
            44.      153       2.0  -4.8
           145.      186       5.5  -6.6
           276.      202       8.7  -9.1
           302.      213      10.1 -11.4
           405.      225       9.3 -12.3
           480.      237       8.1 -12.6
```

557. 249 6.0 -12.9

C-B SOUNDING — PLOTTED ON 11/MAY/78

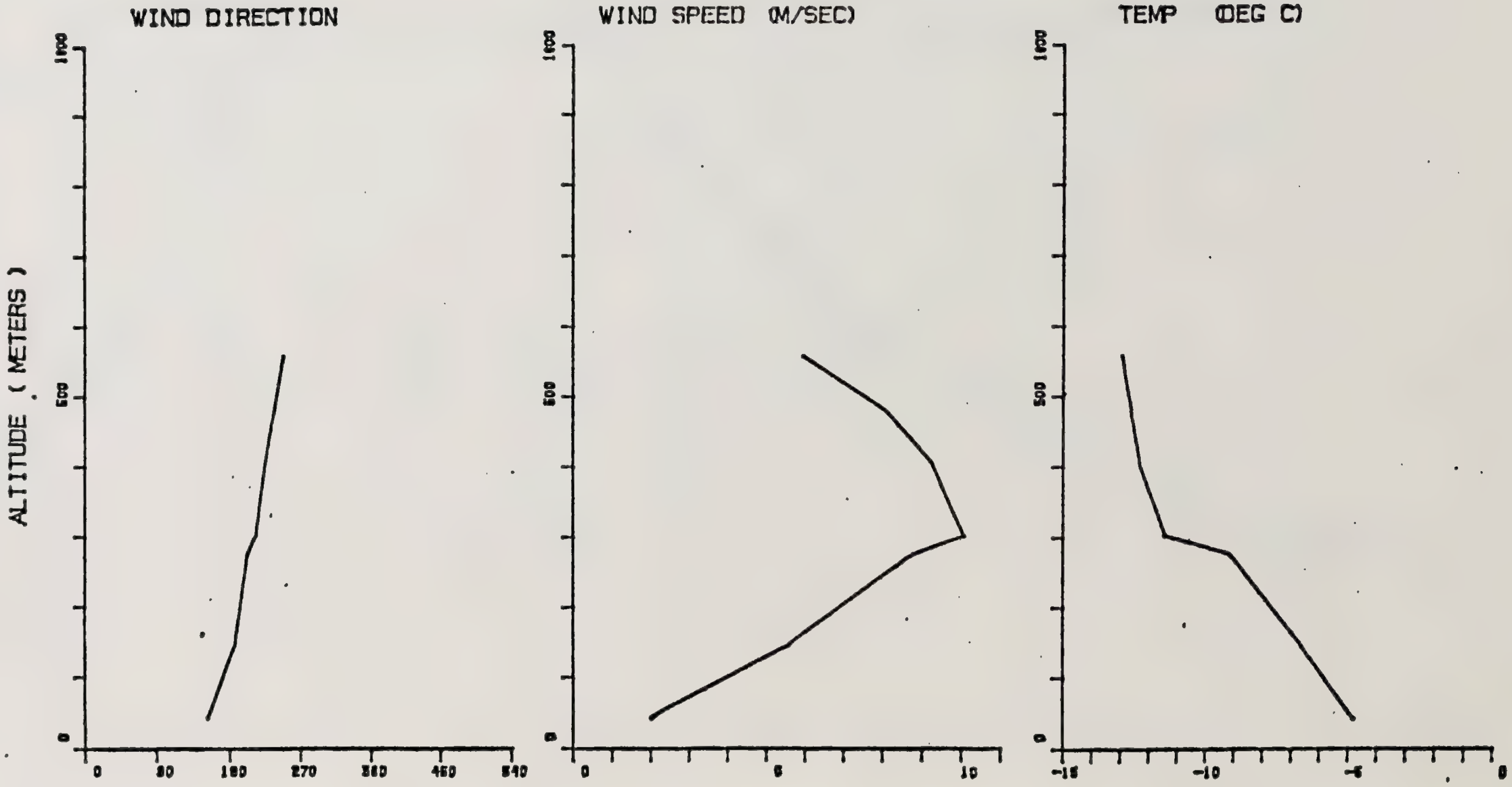
TIME 020 DATE 2/ 3/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 11/MAY/78

TIME 820 DATE 2/ 3/78



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C-B PIBAL SOUNDING                          RUN ON 12/MAY/78

SOUNDING DATE  2- 3-78

BALLOON RELEASED 1415 CST


BASE LINE ANGLE              78.4
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)      -100.0

              THEODOLITE #1            THEODOLITE #2


    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0            .0         .0         258.5         .0       .0
     .5          10.0       10.5         267.0        3.7      2.7
    1.0          16.8       20.2         279.8        8.0      2.6
    1.5          18.5       22.8         286.8       17.7      2.6
    2.0          25.0       23.4         297.9       19.6      3.9
    2.5          35.3       21.9         315.8       26.6      4.5
    3.0          41.5       21.6         333.6       32.7      4.6
    3.5          45.9       21.4           4.9       38.7      3.9
    4.0          50.1       21.2          21.3       39.1      3.2
    4.5          54.1       21.3          30.9       38.2      3.0
    5.0          56.8       21.1          40.0       36.5      3.2
    5.5          59.6       21.0          46.6       35.4      3.2
    6.0          61.8       20.8          52.4       33.7      2.0
    6.5          64.8       20.6          57.4       32.6       .6
    7.0          65.6       20.4          60.1       30.7       .4
    7.5          67.1       20.1          62.8       29.6      -.1
    8.0          68.6       19.8          66.2       28.3     -1.1
    8.5          70.2       19.6          69.5       27.9     -1.8
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO       ERROR

     1        81.2        5.3
     2       144.8        6.1
     3       281.8        6.8
     4        34.4        7.4
     5        66.9        8.1
     6        67.5        9.1
     7       272.7       12.2
     8       400.5       14.0
     9       268.9       15.1
    10       314.7       17.0
    11       303.2       18.3
    12       342.2       20.3
    13       247.3       21.3
    14       294.3       24.2
    15       293.6       25.7
    16       444.5       28.2
    17       640.7       28.0


         HEIGHT  DIRECTION  SPEED  TEMP
          FEET    DEGREES   FT/SEC
```
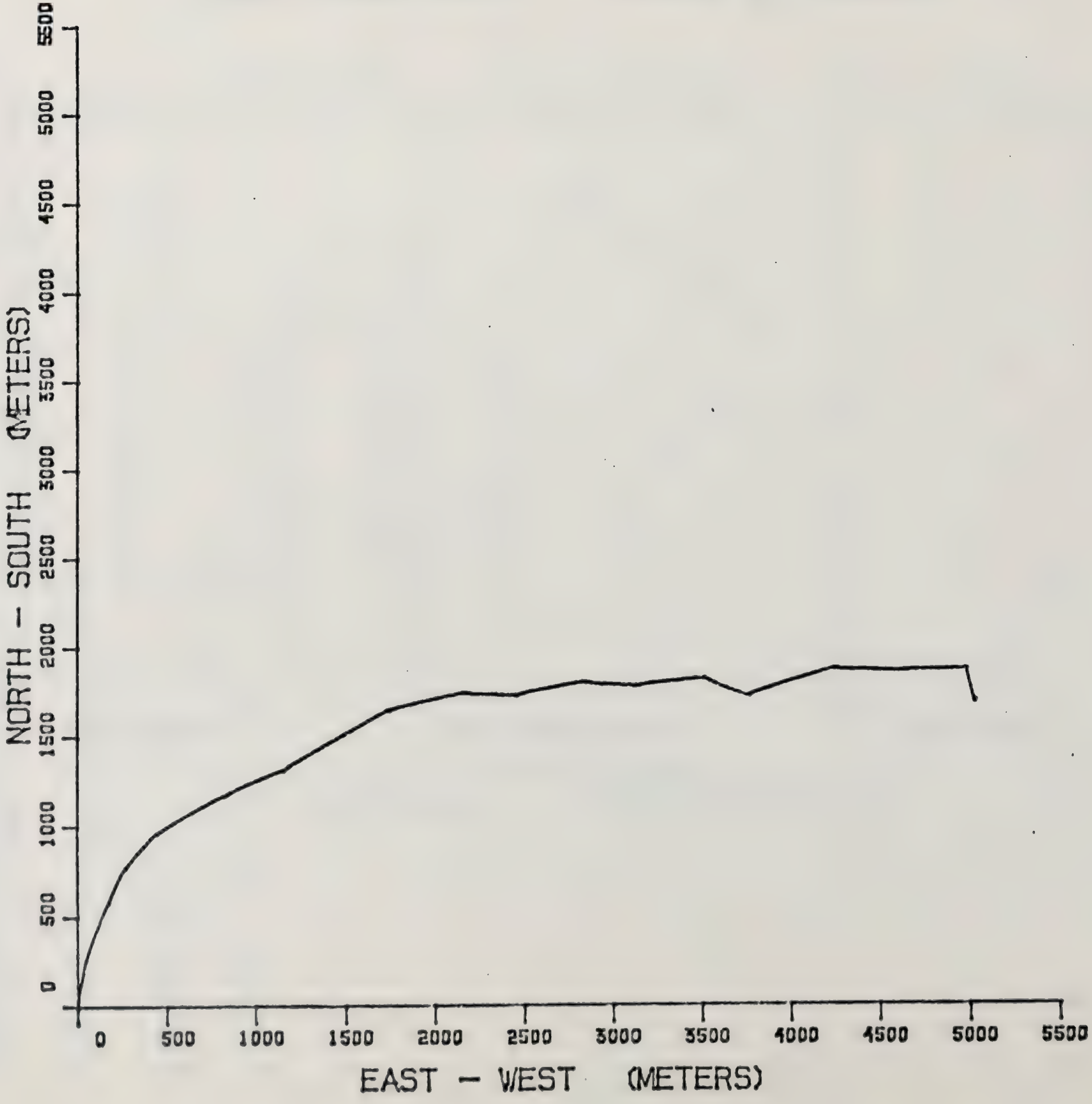

```
  169.       196       32.8    2.7
  680.       203       30.6    2.6
 1231.       215       25.9    2.6
 1468.       234       37.3    3.9
 1846.       243       42.9    4.5
 2224.       242       56.6    4.6
 3221.       246       60.0    3.9
 3721.       263       39.1    3.2
 3958.       264       36.9    3.0
 4378.       265       37.1    3.2
 4643.       268       37.1    3.2
 5038.       275       35.1    2.0
 5180.       265       40.3     .6
 5735.       260       42.6     .4
 5949.       271       40.4    -.1
 6351.       289       28.9   -1.1

HEIGHT   DIRECTION   SPEED   TEMP
METERS    DEGREES    M/SEC

   52.       196       10.0    2.7
  207.       203        9.3    2.6
  375.       215        7.9    2.6
  454.       234       11.4    3.9
  563.       243       13.1    4.5
  678.       242       17.3    4.6
  982.       246       18.3    3.9
 1134.       263       11.9    3.2
 1206.       264       11.2    3.0
 1334.       265       11.3    3.2
 1415.       268       11.3    3.2
 1536.       275       10.7    2.0
 1579.       265       12.3     .6
 1748.       260       13.0     .4
 1813.       271       12.3    -.1
 1936.       289        8.8   -1.1
```

C-B SOUNDING — PLOTTED ON 12/MAY/78

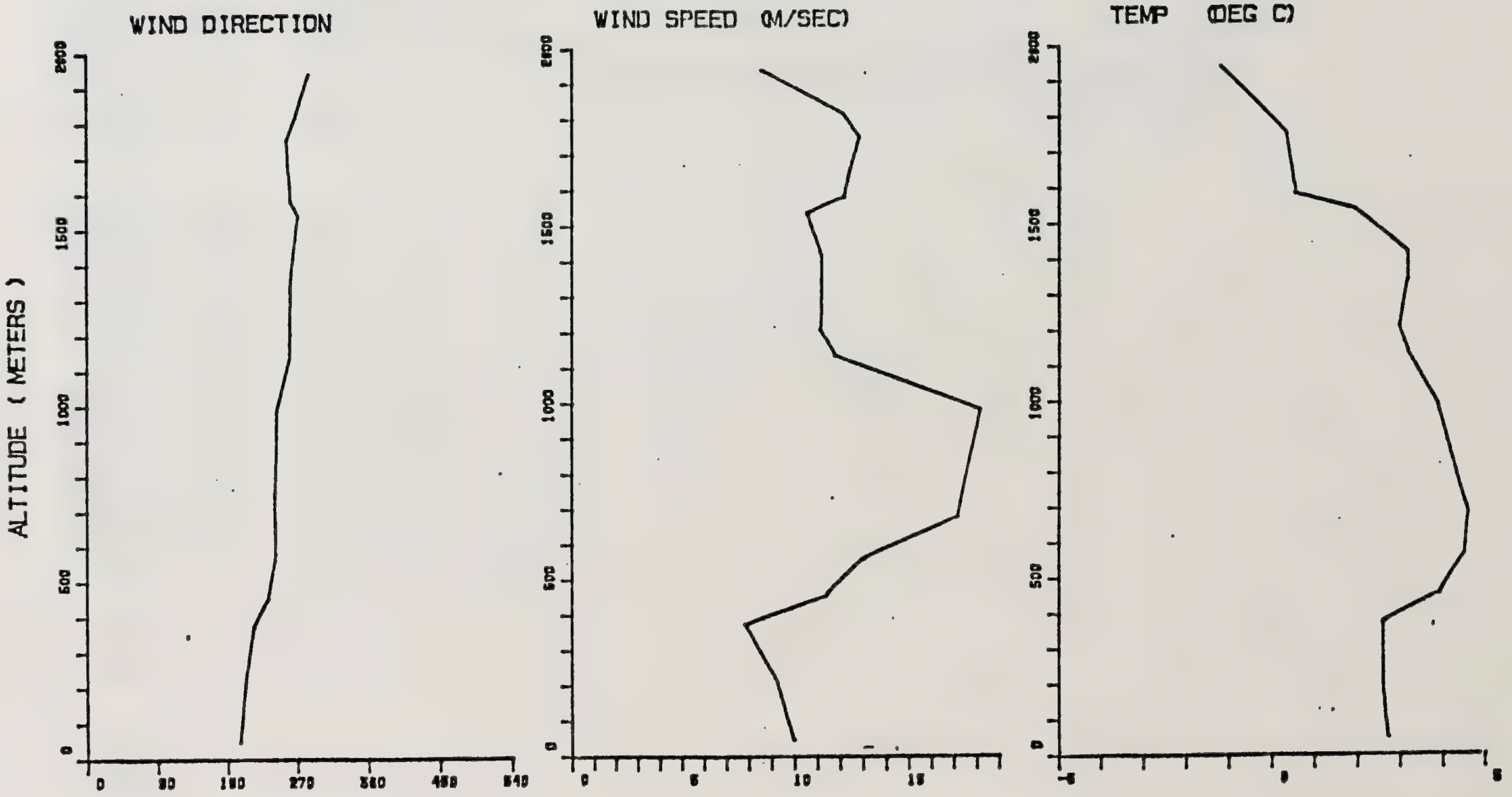
TIME 1415 DATE 2/ 3/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 12/MAY/78

TIME 1415 DATE 2/ 3/78



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C-B PIBAL SOUNDING                        RUN ON 11/MAY/78

SOUNDING DATE  2- 6-78

BALLOON RELEASED  800 CST

BASE LINE ANGLE             78.4
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)     -100.0
              THEODOLITE #1           THEODOLITE #2

  TIME       AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
   .0           .0         .0          258.5        .0         .0
   .5         29.2       29.4          261.6       4.6        3.5
  1.0         31.1       45.3          265.2       9.1        2.7
  1.5         35.5       42.3          269.6      13.7        2.1
  2.0         41.0       39.9          273.1      18.1         .9
  2.5         47.5       36.4          277.7      23.5         .4
  3.0         51.4       35.8          281.5      30.4        -.1
  3.5         58.0       36.1          282.0      38.0        -.3
  4.0         64.0       35.5          289.2      45.1        -.8
  4.5         69.9       36.3          280.4      55.2       -1.3
  5.0         74.4       35.5          278.4      65.6       -1.9
  5.5         78.8       34.9          271.9      76.2       -2.1
  6.0         81.6       33.8          237.7      88.4       -2.5
  6.5         83.0       32.6          213.2      88.7       -3.7
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

    1        84.6       5.0
    2        62.7       5.3
    3       100.5       5.6
    4       111.8       5.8
    5       139.2       6.0
    6       114.6       6.3
    7       108.8       6.5
    8       400.3       6.7
    9       176.8       7.0
   10       179.5       7.4
   11       220.0       8.0
   12       258.9       8.9
   13       372.5       8.7

          HEIGHT  DIRECTION  SPEED   TEMP
           FEET    DEGREES   FT/SEC

           257.      210      12.3   3.5
           733.      217      13.1   2.7
          1085.      227      15.7   2.1
          1353.      240      17.7    .9
          1596.      246      18.4    .4
          1902.      263      15.6   -.1
          2177.      269      17.0   -.3
          2394.      287      16.0   -.8
```

```
 2704.     300      17.1  -1.3
 2964.     288      18.9  -1.9
 3248.     283      21.9  -2.1
 3599.     281      13.2  -2.5

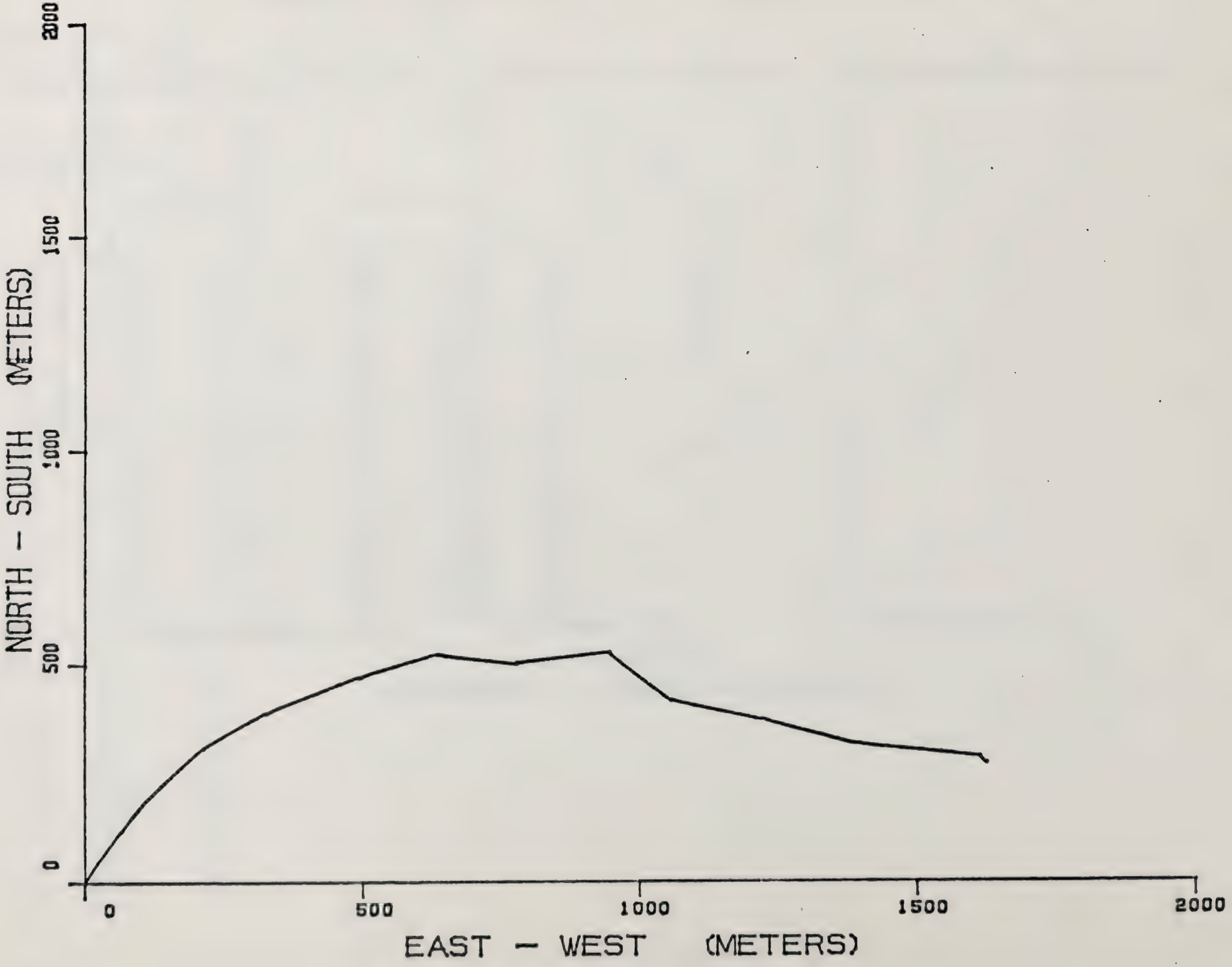
HEIGHT  DIRECTION  SPEED  TEMP
METERS   DEGREES   M/SEC

   78.     210       3.7   3.5
  224.     217       4.0   2.7
  331.     227       4.8   2.1
  412.     240       5.4    .9
  487.     246       5.6    .4
  580.     263       4.8   -.1
  664.     269       5.2   -.3
  730.     287       4.9   -.8
  824.     300       5.2  -1.3
  903.     288       5.8  -1.9
  990.     283       6.7  -2.1
 1097.     281       4.0  -2.5
```

C-B SOUNDING — PLOTTED ON 11/MAY/78

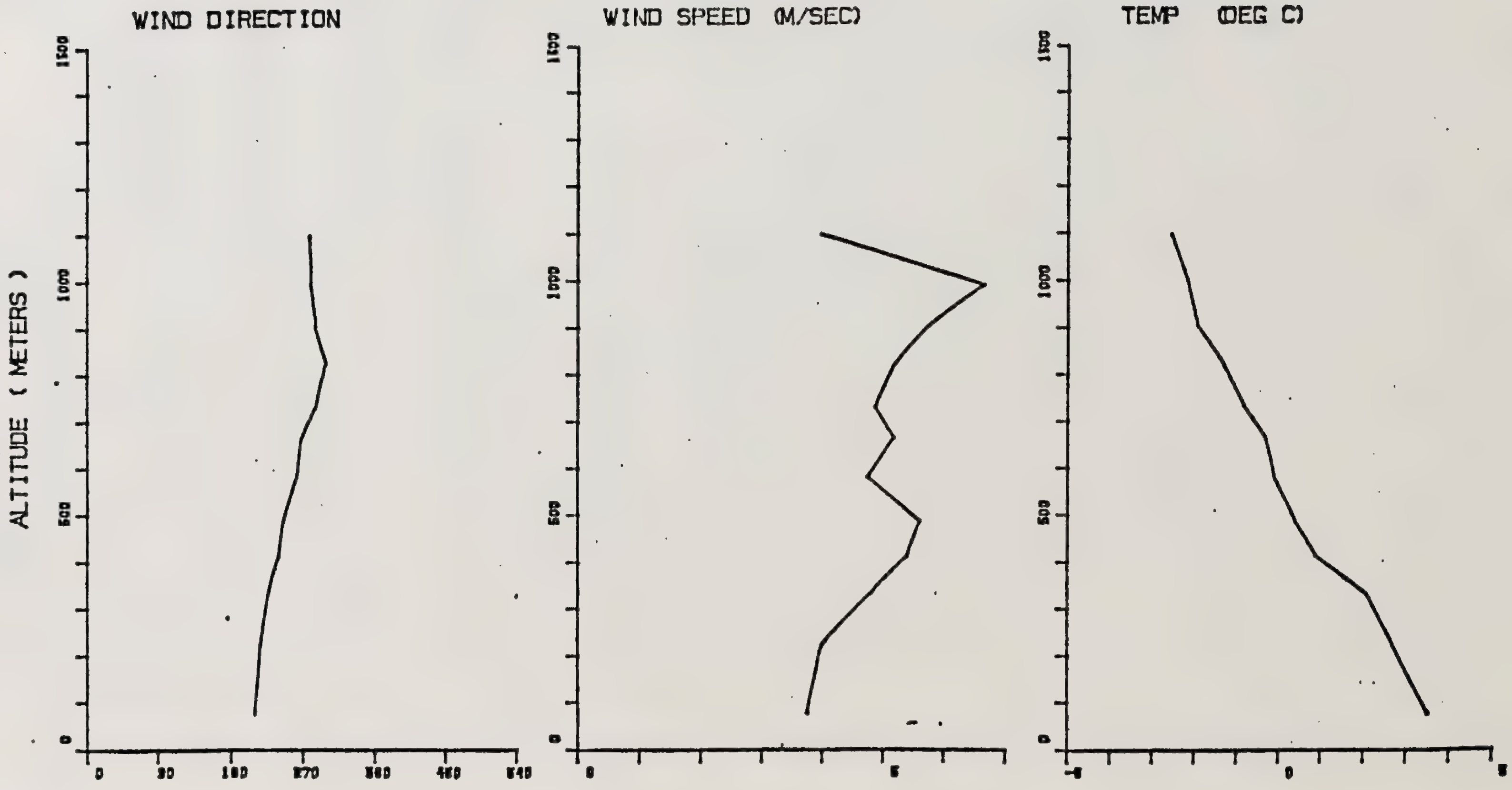
TIME 800 DATE 2/ 6/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 11/MAY/78

TIME 800 DATE 2/ 8/78



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C-B PIBAL SOUNDING                         RUN ON 10/MAY/78

SOUNDING DATE  2- 6-78

BALLOON RELEASED 1400 CST

BASE LINE ANGLE               78.4
BASE LINE LENGTH (FT)       4573.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)       -100.0

              THEODOLITE #1               THEODOLITE #2

   TIME       AZIMUTH  ELEVATION          AZIMUTH  ELEVATION     TEMP
    .0             .0         .0           258.5         .0        .0
    .5           39.2       34.4           262.5        4.5       6.5
   1.0           36.0       29.5           268.1        7.9       5.4
   1.5           35.5       29.5           273.2       11.7       4.6
   2.0           36.7       29.3           277.8       15.2       4.0
   2.5           38.4       29.1           283.0       19.0       3.2
   3.0           39.3       28.9           288.5       22.7       2.6
   3.5           40.7       29.1           294.5       26.9       1.8
   4.0           40.0       29.3           301.1       30.6       1.5
   4.5           41.4       28.8           309.0       33.5        .8
   5.0           42.4       28.6           318.3       36.9        .2
   5.5           44.6       28.9           326.8       40.7       -.3
   6.0           46.8       29.2           335.8       44.7      -1.1
   6.5           49.4       29.4           345.0       47.7      -1.6
   7.0           51.3       29.6           355.1       49.5      -2.1
   7.5           53.0       29.4             4.9       50.1      -2.6
   8.0           54.5       29.3            13.4       49.8      -3.2
   8.5           55.7       29.2            19.5       48.5      -4.3
   9.0           54.5       28.9            23.0       46.4      -5.2
   9.5           53.5       28.5            25.1       44.2      -6.0
  10.0           52.1       28.1            26.1       41.7      -6.7
  10.5           50.4       27.7            26.0       36.9      -7.3
  11.0           48.7       27.5            25.6       38.6      -8.0
  11.5           47.4       27.4            25.2       37.0      -8.9
  12.0           46.0       27.4            24.6       36.9      -9.6
COMPARISON OF HEAL ERROR WITH 0.1 DEG. ERROR

  TIME       RHO        ERROR

     1       61.3         4.2
     2       82.0         4.4
     3       89.4         4.6
     4       96.8         4.9
     5      113.5         5.1
     6      121.7         5.4
     7      135.3         5.6
     8      118.0         6.1
     9      163.5         6.4
    10      176.7         6.9
    11      188.7         7.4
    12      158.2         7.9
    13      165.3         8.4
    14      171.7         9.1
    15      165.1         9.7
```
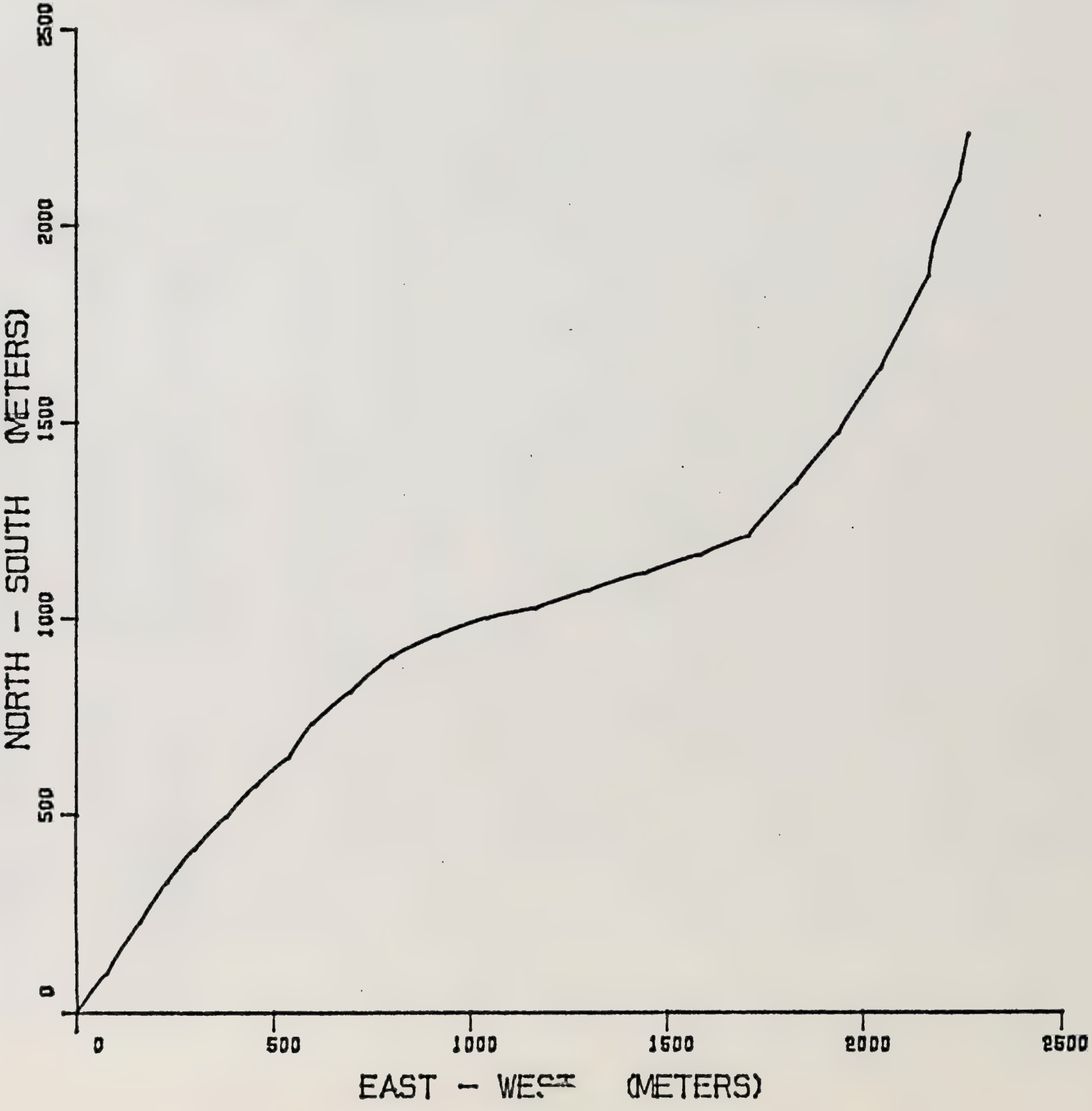

```
16     182.9      10.5
17     260.5      11.2
18     218.9      12.2
19     223.3      13.2
20     261.6      14.3
21     611.1      15.6
22     229.5      16.2
23     315.6      17.1
24     220.6      17.9

        HEIGHT  DIRECTION  SPEED   TEMP
         FEET    DEGREES   FT/SEC

          273.     215      15.2    6.5
          500.     213      15.3    5.4
          723.     216      12.8    4.6
          908.     222      12.2    4.0
         1095.     224      12.1    3.2
         1271.     226      11.9    2.6
         1469.     222      11.8    1.8
         1682.     223      12.5    1.5
         1838.     229      14.4     .8
         2059.     236      14.4     .2
         2292.     247      14.1    -.3
         2556.     254      14.1   -1.1
         2779.     255      14.8   -1.6
         3046.     252      15.9   -2.1
         3282.     252      16.2   -2.6
         3520.     250      15.3   -3.2
         3701.     233      16.6   -4.3
         3992.     221      18.9   -5.2
         4211.     216      19.7   -6.0
         4438.     210      24.9   -6.7
         4564.     203      18.8   -7.3
         4861.     197      13.7   -8.0
         5046.     197      15.7   -8.9

        HEIGHT  DIRECTION  SPEED   TEMP
        METERS   DEGREES   M/SEC

           83.     215       4.6    6.5
          152.     213       4.7    5.4
          220.     216       3.9    4.6
          277.     222       3.7    4.0
          334.     224       3.7    3.2
          387.     226       3.6    2.6
          448.     222       3.6    1.8
          513.     223       3.8    1.5
          560.     229       4.4     .8
          628.     236       4.4     .2
          699.     247       4.3    -.3
          779.     254       4.3   -1.1
          847.     255       4.5   -1.6
          928.     252       4.8   -2.1
         1000.     252       4.9   -2.6
         1073.     250       4.7   -3.2
         1128.     233       5.1   -4.3
         1217.     221       5.8   -5.2
```

```
1284.     216       6.0  -6.0
1353.     210       7.6  -6.7
1391.     203       5.7  -7.3
1482.     197       4.2  -6.0
1538.     197       4.8  -8.9
```

C-B SOUNDING - PLOTTED ON 10/MAY/78

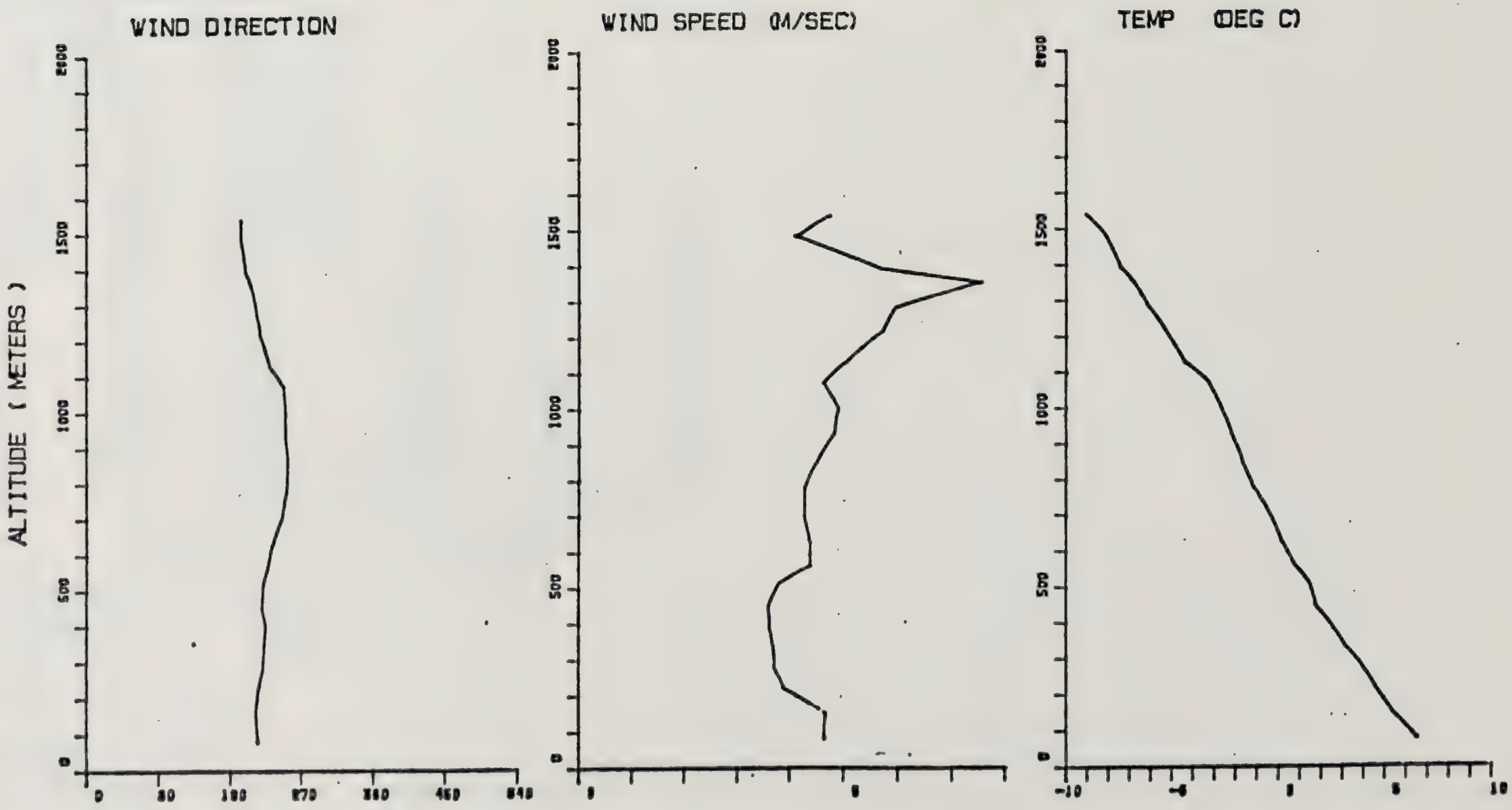
TIME 1400 DATE 2/ 8/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 10/MAY/78

TIME 1400 DATE 2/ 8/78



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C-8 PIBAL SOUNDING                    RUN ON 11/MAY/78

SOUNDING DATE  2- 7-78

BALLOON RELEASED  815 CST


BASE LINE ANGLE            78.4
BASE LINE LENGTH (FT)    5473.5
TIME INTERVAL (SEC)        30.0
BASE LINE HEIGHT (FT)    -100.0
             THEODOLITE #1             THEODOLITE #2

   TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION   TEMP
     .0           .0         .0         258.5         .0     .0
     .5        305.1       65.2         259.5        3.0    -.7
    1.0        344.1       60.2         263.1        8.8   -1.0
    1.5          9.1       55.2         264.5       10.9   -1.5
    2.0         17.5       55.8         266.3       13.7   -2.1
    2.5         26.9       56.9         267.2       16.6   -2.7
    3.0         43.0       55.0         267.0       22.5   -3.3
    3.5         53.0       54.0         266.0       27.7   -3.8
    4.0         56.0       53.5         265.1       34.2   -4.7
    4.5         63.1       52.9         265.2       38.9   -5.5
    5.0         65.9       52.1         267.3       43.8   -6.2
    5.5         63.2       52.8         269.3       46.8   -7.1
    6.0         61.6       53.8         270.7       49.9   -8.2
    6.5         60.9       55.1         272.0       52.8   -9.1
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO      ERROR

     1      35.6       5.0
     2      14.4       5.6
     3      33.4       5.6
     4      14.6       5.8
     5      40.6       6.1
     6      44.3       6.1
     7      99.4       6.3
     8     253.6       6.7
     9     132.1       6.9
    10      10.0       7.2
    11      55.8       7.6
    12      98.7       8.0
    13     105.4       8.4

          HEIGHT  DIRECTION  SPEED  TEMP
           FEET    DEGREES   FT/SEC

           201.      165       7.3   -.7
           761.      197       9.7  -1.0
           902.      226       8.1  -1.5
          1159.      232       7.4  -2.1
          1538.      257      10.3  -2.7
          1761.      272      12.4  -3.3
          2065.      267      11.3  -3.8
          2460.      269      10.7  -4.7
```

```
 2723.       266        10.2  -5.5
 3000.       239         7.0  -6.2
 3251.       212         4.6  -7.1
 3536.       220         3.7  -8.2

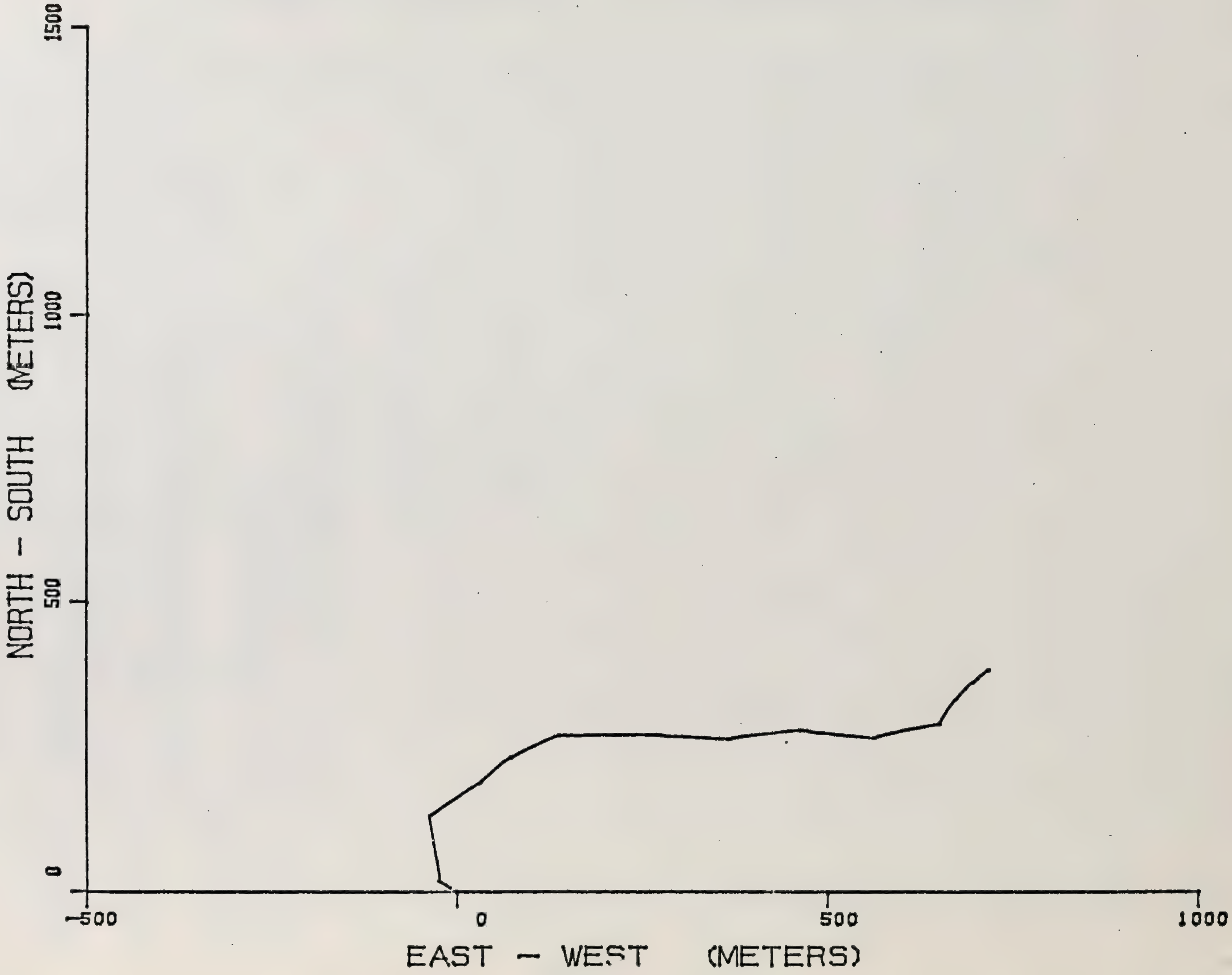
HEIGHT   DIRECTION   SPEED   TEMP
METERS    DEGREES    M/SEC

   61.       165         2.2   -.7
  232.       197         3.0  -1.0
  275.       226         2.5  -1.5
  353.       232         2.3  -2.1
  469.       257         3.1  -2.7
  537.       272         3.8  -3.3
  629.       267         3.4  -3.6
  750.       269         3.3  -4.7
  830.       266         3.1  -5.5
  914.       239         2.1  -6.2
  991.       212         1.4  -7.1
 1078.       220         1.1  -8.2
```

C-B SOUNDING — PLOTTED ON 11/MAY/78

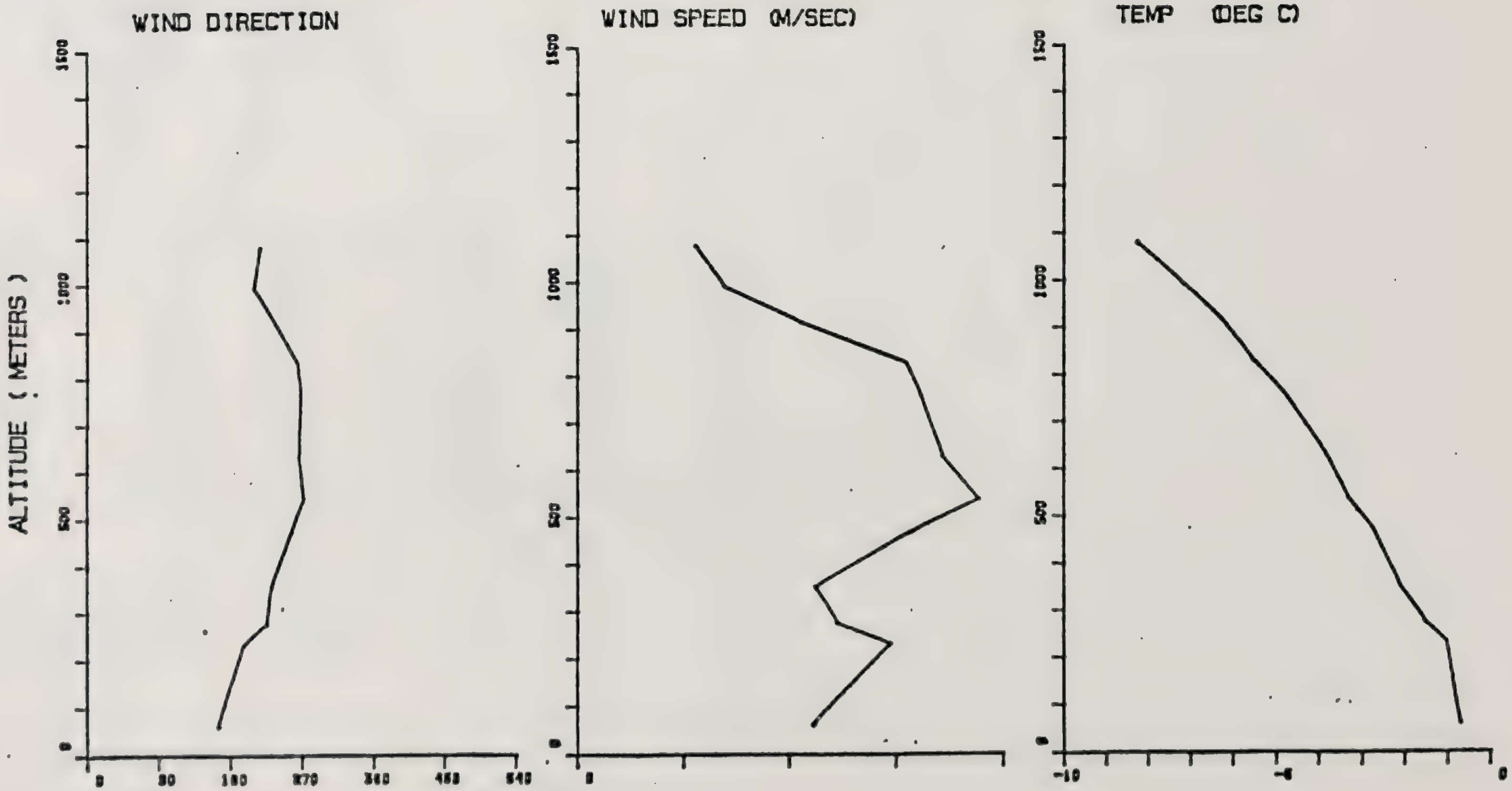
TIME 815 DATE 2/ 7/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 11/MAY/78

TIME 815 DATE 2/ 7/78



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C-8 PIBAL SOUNDING                    RUN ON 11/MAY/78

SOUNDING DATE  2- 7-78

BALLOON RELEASED 1400 CST


BASE LINE ANGLE             78.4
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)     -100.0

            THEODOLITE #1          THEODOLITE #2

    TIME     AZIMUTH  ELEVATION     AZIMUTH  ELEVATION    TEMP
     .0         .0        .0        258.5        .0        .0
     .5        8.2      31.8        262.0       3.5       2.3
    1.0       10.2      21.9        269.4       5.1       1.9
    1.5       12.2      19.9        276.2       7.4       1.8
    2.0       13.7      20.2        283.0      10.0       1.1
    2.5       16.0      20.1        290.5      12.5        .8
    3.0       17.5      20.4        297.6      15.5        .2
    3.5       20.0      20.8        306.2      18.9       -.9
    4.0       22.2      21.8        313.8      22.4      -1.5
    4.5       24.2      22.9        321.0      25.5      -2.2
    5.0       25.3      24.2        327.2      28.5      -3.1
    5.5       28.2      25.0        332.3      31.0      -4.0
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO       ERROR

    1       7.7        5.1
    2      58.3        5.5
    3      49.3        6.0
    4      59.0        6.5
    5      80.4        7.0
    6      52.9        7.7
    7      36.1        8.4
    8      17.5        9.2
    9      22.0       10.0
   10        .6       10.9
   11       6.0       11.3


      HEIGHT  DIRECTION  SPEED  TEMP
       FEET    DEGREES  FT/SEC

       222.      190      17.3   2.3
       407.      193      21.8   1.9
       589.      196      20.4   1.8
       812.      200      20.7   1.1
      1028.      204      20.9    .8
      1279.      208      22.3    .2
      1583.      214      23.0   -.9
      1927.      218      21.3  -1.5
      2287.      217      20.1  -2.2
      2701.      230      16.6  -3.1
```

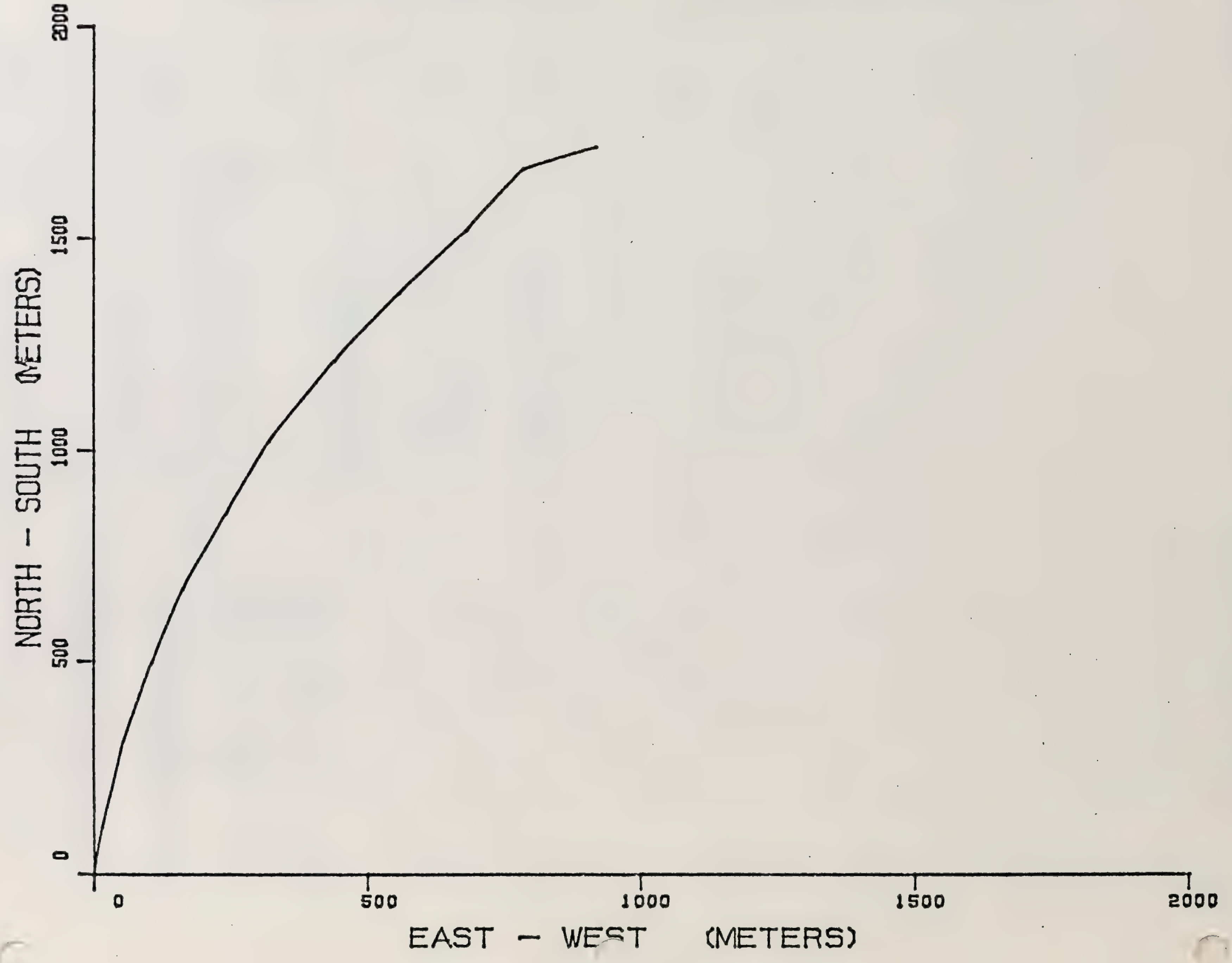
```
HEIGHT  DIRECTION  SPEED  TEMP
METERS   DEGREES   M/SEC

   68.      190      5.3   2.3
  124.      193      6.6   1.9
  180.      196      6.2   1.8
  247.      200      6.3   1.1
  313.      204      6.4    .8
  390.      208      6.8    .2
  483.      214      7.0   -.9
  587.      218      6.5  -1.5
  697.      217      6.1  -2.2
  823.      230      5.1  -3.1
```

C-B SOUNDING - PLOTTED ON 11/MAY/78

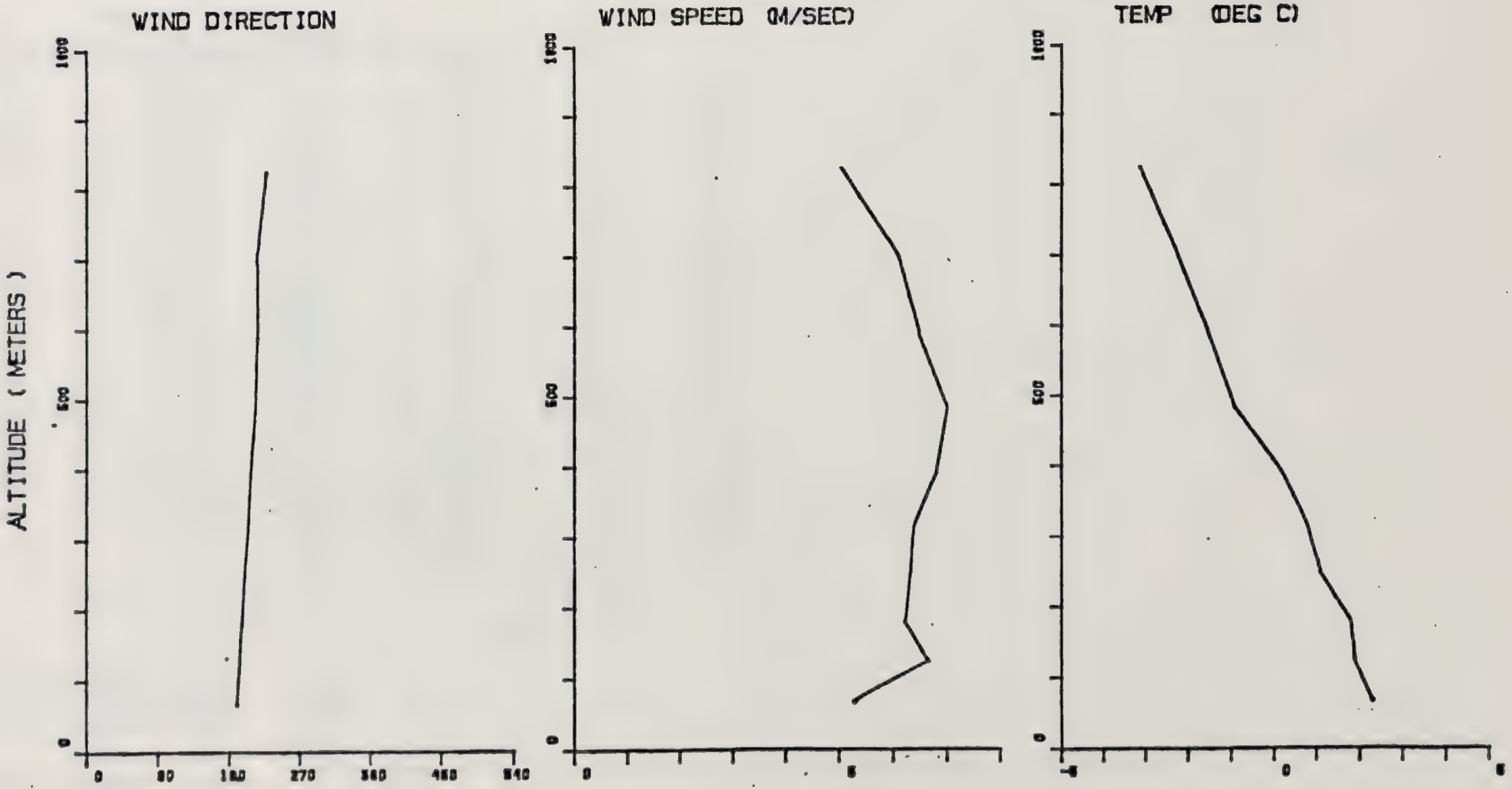
TIME 1400 DATE 2/ 7/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 11/MAY/78

TIME 1400 DATE 2/ 7/78



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C-B PIBAL SOUNDING                    RUN ON 10/MAY/78

SOUNDING DATE  2- 9-78

BALLOON RELEASED  815 CST

BASE LINE ANGLE             78.4
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)     -100.0

              THEODOLITE #1          THEODOLITE #2

   TIME     AZIMUTH  ELEVATION      AZIMUTH  ELEVATION   TEMP
    .0          .0        .0        258.5        .0        .0
    .5       322.1      40.2        261.7       3.5       4.8
   1.0       340.1      34.9        269.2       7.5       3.9
   1.5       347.4      28.2        280.3      11.5       2.8
   2.0       353.3      26.2        289.3      14.3       1.8
   2.5       359.0      23.0        301.2      17.0        .9
   3.0         6.6      21.0        315.5      18.8       -.4
   3.5         9.4      20.2        324.6      19.1      -1.8
   4.0        12.7      18.8        332.9      19.1      -2.8
   4.5        15.9      17.4        342.2      18.7      -4.0
   5.0        17.3      16.5        347.9      17.8      -4.2
   5.5        19.8      15.9        353.0      17.4      -4.1
   6.0        23.1      15.8        360.0      17.6      -3.9
   6.5        26.1      15.9          5.1      18.0      -3.9
   7.0        29.0      16.1         10.0      18.5      -4.3
   7.5        31.8      16.4         14.2      18.9      -5.5
   8.0        34.0      16.6         18.2      19.1      -6.6
   8.5        35.7      16.4         21.1      18.8      -7.0
   9.0        36.8      16.5         23.4      18.8      -7.6
   9.5        37.3      16.4         24.9      18.5      -7.9
  10.0        37.8      16.4         26.1      18.2      -8.8
  10.5        38.1      16.2         27.0      18.0      -8.9
  11.0        38.4      15.0         28.0      17.6      -9.6
  11.5        38.5      15.8         28.8      17.0      -10.
  12.0        38.9      15.4         29.8      16.5      -11.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      41.2       5.3
     2      81.1       6.1
     3      67.9       7.4
     4      80.6       8.5
     5      18.0      10.0
     6      83.8      11.7
     7     188.3      13.3
     8     192.2      14.8
     9     198.6      17.1
    10     254.2      19.1
    11     284.6      20.5
    12     311.8      23.0
    13     322.1      24.5
    14     320.5      26.2
    15     368.9      27.3
```

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16    401.6     29.3
17    434.7     30.8
18    460.1     32.7
19    490.3     34.8
20    573.4     36.4
21    545.1     38.0
22    163.0     39.4
23    692.6     42.4
24    694.8     44.6

     HEIGHT  DIRECTION  SPEED  TEMP
      FEET    DEGREES   FT/SEC

       272.     161      17.3   4.8
       708.     172      31.6   3.9
      1151.     180      35.0   2.8
      1494.     190      38.1   1.8
      1854.     200      49.4    .9
      2221.     205      48.1   -.4
      2511.     207      40.9  -1.8
      2701.     211      48.1  -2.8
      2968.     209      50.6  -4.0
      3170.     215      40.6  -4.2
      3300.     226      47.5  -4.1
      3712.     232      49.6  -3.9
      4015.     242      42.2  -3.9
      4371.     250      39.0  -4.3
      4644.     248      40.2  -5.5
      5050.     243      40.1  -6.6
      5224.     239      36.9  -7.0
      5582.     229      39.9  -7.6
      5879.     226      35.7  -7.9
      6103.     227      30.5  -8.8
      6296.     226      30.1  -8.9
      6237.     222      43.0  -9.6
      6772.     222      48.8 -10.3

     HEIGHT  DIRECTION  SPEED  TEMP
     METERS   DEGREES   M/SEC

        83.     161       5.3   4.8
       216.     172       9.6   3.9
       351.     180      10.7   2.8
       455.     190      11.6   1.8
       565.     200      15.1    .9
       677.     205      14.7   -.4
       765.     207      12.5  -1.8
       823.     211      14.7  -2.8
       905.     209      15.4  -4.0
       966.     215      12.4  -4.2
      1006.     226      14.5  -4.1
      1132.     232      15.1  -3.9
      1224.     242      12.9  -3.9
      1332.     250      11.9  -4.3
      1416.     248      12.3  -5.5
      1539.     243      12.2  -6.6
      1592.     239      11.2  -7.0
      1701.     229      12.2  -7.6
```

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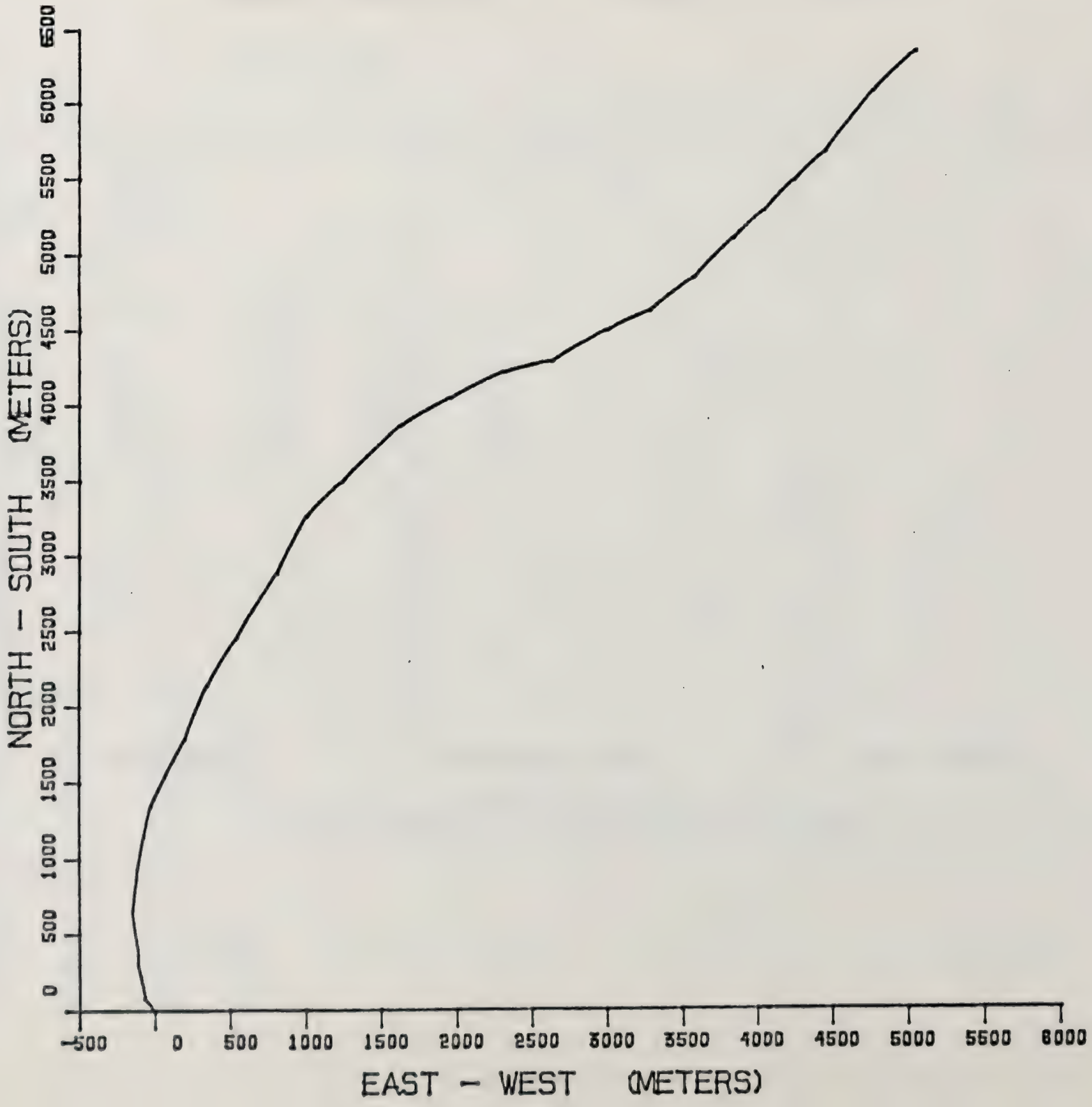
1792.     226      10.9  -7.9
1860.     227       9.3  -8.8
1919.     226       9.2  -8.9
1901.     222      13.1  -9.6
2064.     222      14.9 -10.3
```

C-B SOUNDING - PLOTTED ON 10/MAY/78

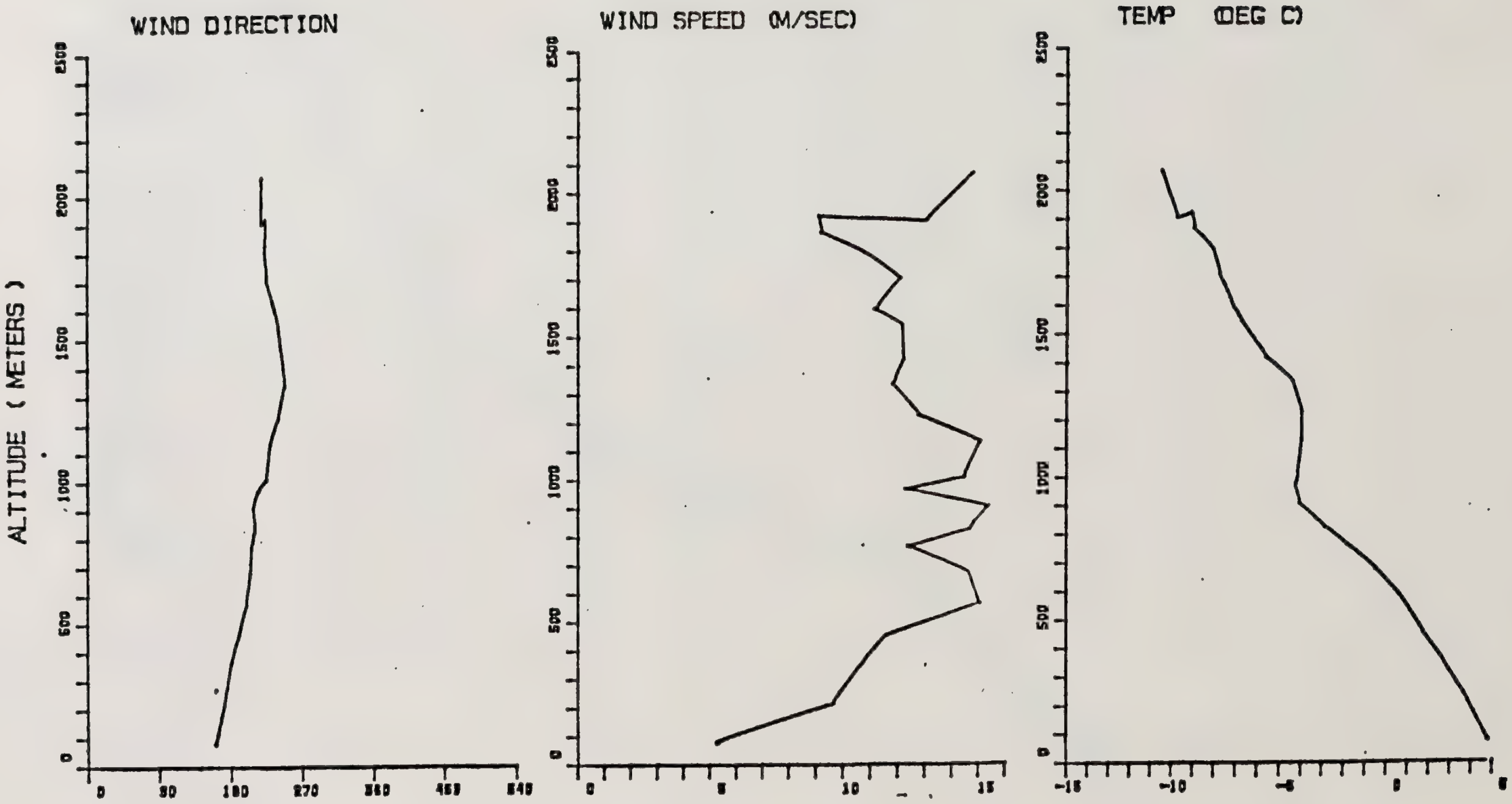
TIME 815 DATE 2/ 9/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C—B SOUNDING — PLOTTED ON 10/MAY/78

TIME 815 DATE 2/ 9/78



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C-B PIBAL SOUNDING                    RUN ON 11/MAY/78

SOUNDING DATE  2- 9-78

BALLOON RELEASED 1400 CST


BASE LINE ANGLE             78.4
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)     -100.0

                THEODOLITE #1          THEODOLITE #2


    TIME      AZIMUTH  ELEVATION      AZIMUTH  ELEVATION    TEMP
     .0           .0        .0         258.5        .0        .0
     .5          8.3      28.0         268.0       5.3       -.6
    1.0          6.1      24.9         280.1       9.5      -1.3
    1.5          7.5      23.1         291.1      13.3      -2.5
    2.0         11.2      23.6         301.3      17.7      -3.1
    2.5         13.6      22.3         311.0      19.7      -3.8
    3.0         16.9      21.1         325.7      22.0      -4.2
    3.5         20.2      19.5         339.1      21.7      -4.5
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

    1      91.7        5.5
    2     148.3        6.5
    3     125.5        7.6
    4     105.2        8.7
    5      99.5        9.8
    6      95.5       11.9
    7     177.6       14.3


        HEIGHT  DIRECTION  SPEED  TEMP
         FEET    DEGREES   FT/SEC

          454.      185     33.0   -.6
          873.      187     35.5  -1.3
         1234.      196     33.0  -2.5
         1675.      203     31.9  -3.1
         1953.      205     43.0  -3.8
         2447.      209     57.0  -4.2


        HEIGHT  DIRECTION  SPEED  TEMP
        METERS   DEGREES   M/SEC

          138.      185     10.1   -.6
          266.      187     10.8  -1.3
          376.      196     10.1  -2.5
          511.      203      9.7  -3.1
          595.      205     13.1  -3.8
          746.      209     17.4  -4.2
```
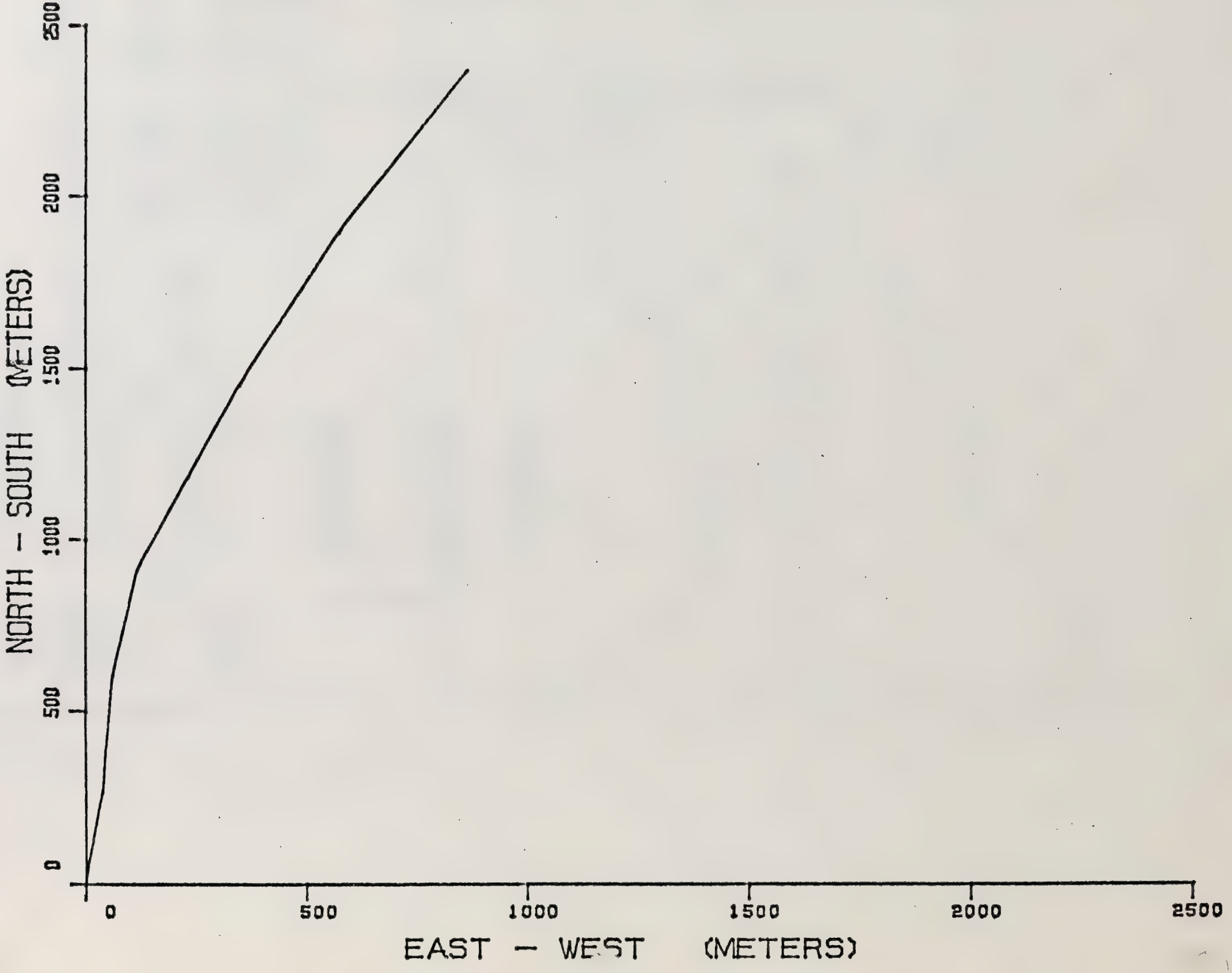

C-B SOUNDING — PLOTTED ON 11/MAY/78

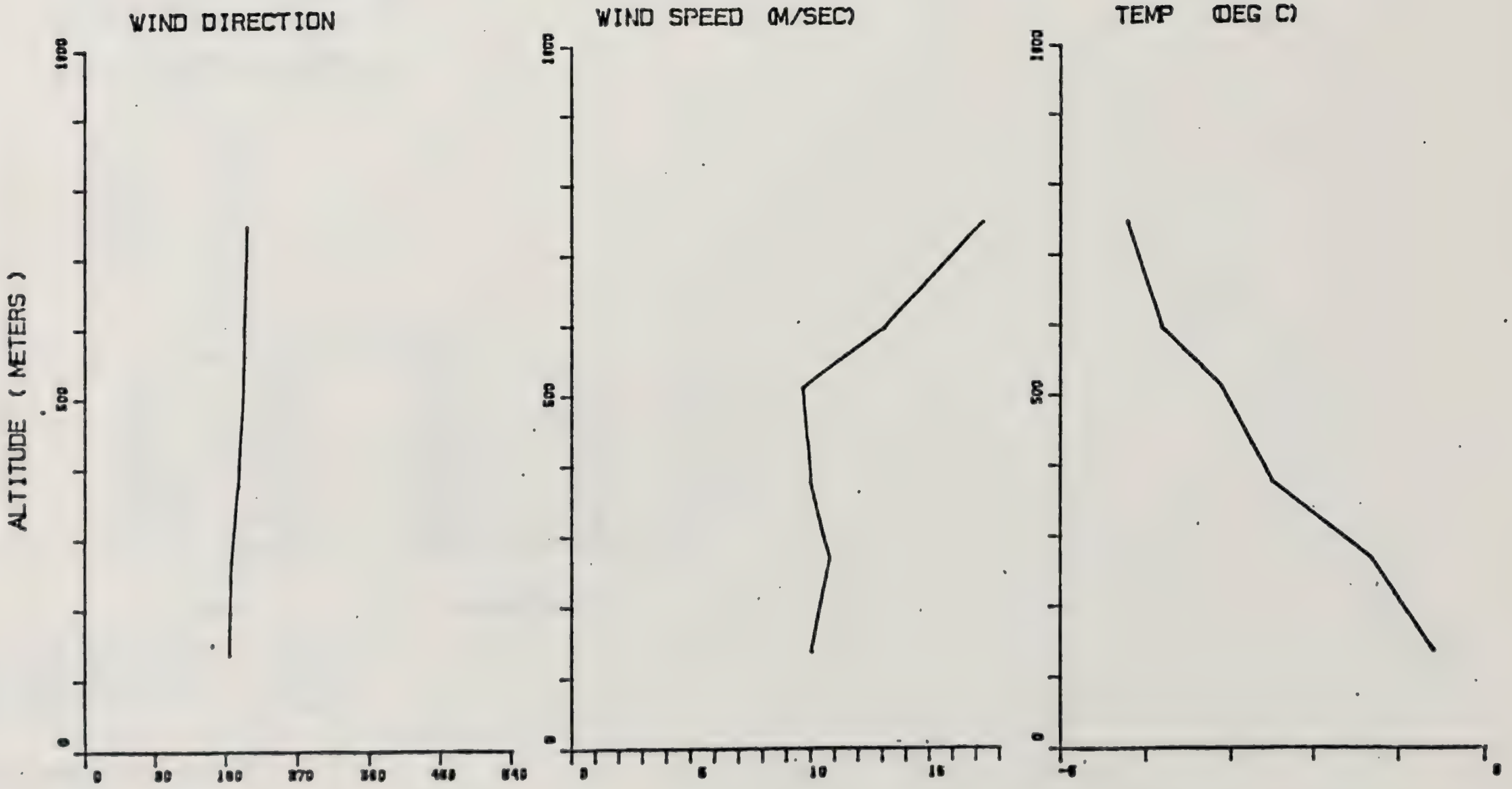
TIME 1400 DATE 2/ 9/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 11/MAY/78

TIME 1400 DATE 2/ 3/78



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C-B PIBAL SOUNDING                          RUN ON 10/MAY/78

SOUNDING DATE  2-10-78

BALLOON RELEASED  820 CST

BASE LINE ANGLE              78.4
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)      -100.0

                THEODOLITE #1            THEODOLITE #2

    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0           .0         .0          258.5        .0        .0
     .5        335.2       35.4          264.0       3.8       3.2
    1.0        341.1       28.8          273.0       7.2       2.5
    1.5        344.8       25.3          282.6       9.9       1.3
    2.0        348.2       23.5          290.9      11.9        .4
    2.5        352.5       22.3          303.4      14.4       -.7
    3.0        357.7       21.2          313.1      15.8      -1.9
    3.5        359.6       20.2          322.0      16.5      -2.9
    4.0          2.2       18.9          330.2      16.5      -2.7
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1       99.8       5.4
     2      153.5       6.5
     3      197.7       7.8
     4      226.3       9.0
     5      317.9      11.2
     6      362.6      12.8
     7      420.4      15.4
     8      460.4      18.1

           HEIGHT  DIRECTION  SPEED  TEMP
            FEET    DEGREES   FT/SEC

             346.     162      23.7   3.2
             743.     168      32.9   2.5
            1101.     174      33.8   1.3
            1402.     180      43.6    .4
            1924.     188      49.4   -.7
            2263.     191      50.3  -1.9
            2715.     190      58.4  -2.9

           HEIGHT  DIRECTION  SPEED  TEMP
           METERS   DEGREES   M/SEC

             105.     162       7.2   3.2
             226.     168      10.0   2.5
             335.     174      10.3   1.3
             427.     180      13.3    .4
             586.     188      15.1   -.7
             690.     191      15.3  -1.9
```

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827.     190      17.8  -2.9
```
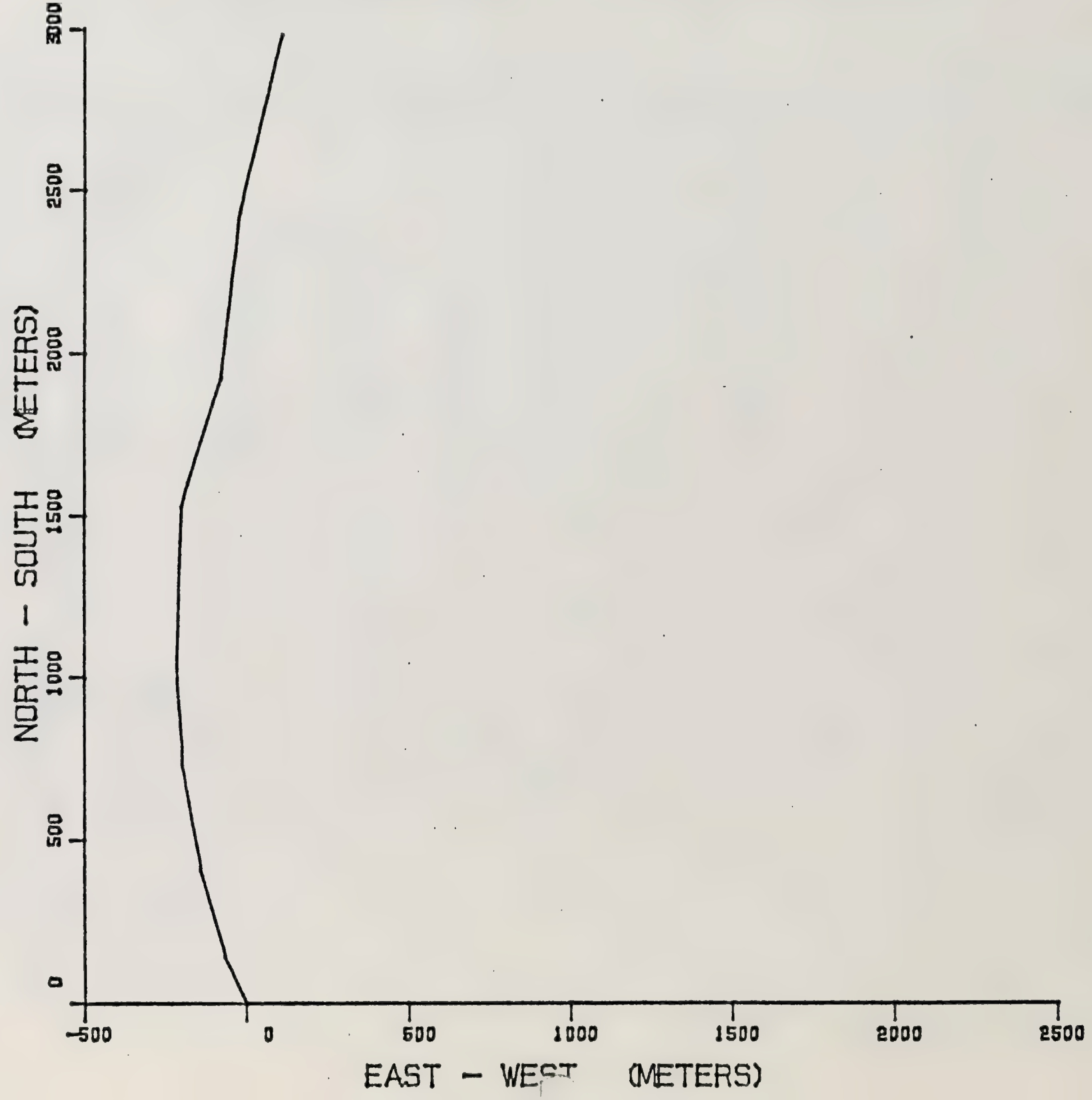

C-B SOUNDING - PLOTTED ON 10/MAY/78

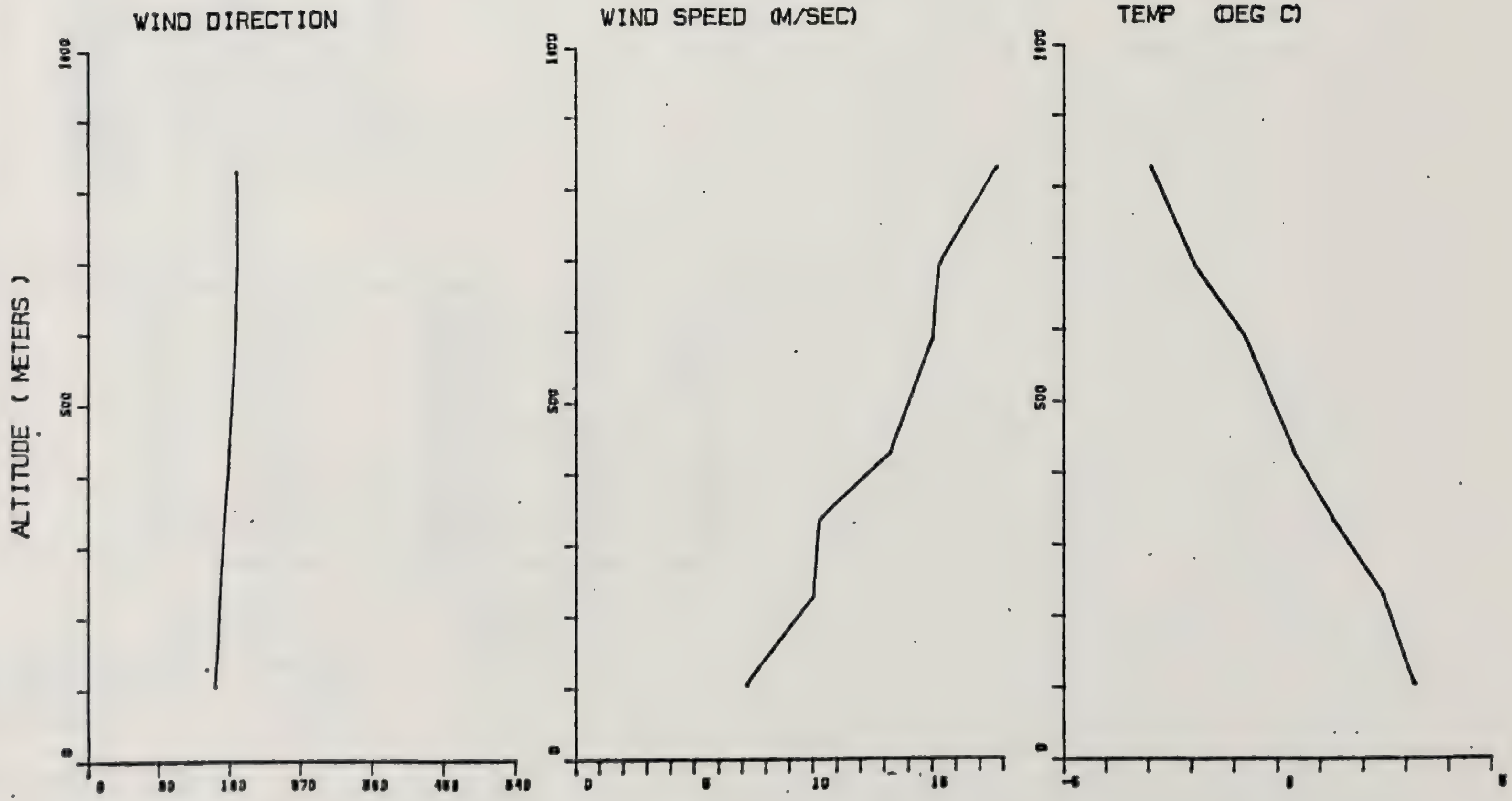
TIME 020 DATE 2/10/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 10/MAY/78

TIME 820 DATE 2/10/78



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C-R PIBAL SOUNDING                     RUN ON 10/MAY/78

SOUNDING DATE  2-10-78

BALLOON RELEASED 1430 CST


BASE LINE ANGLE              78.4
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)      -100.0

                THEODOLITE #1             THEODOLITE #2


    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0           .0         .0          258.5         .0       .0
     .5          9.3       24.0          267.6        3.7      5.5
    1.0          8.2       11.5          278.1        4.8      4.6
    1.5          7.1       14.6          288.8        6.6      3.9
    2.0          7.6       15.3          300.2        9.4      3.2
    2.5          7.8       16.1          309.8       11.5      2.1
    3.0          6.6       15.8          317.2       12.1      1.3
    3.5          6.4       16.5          324.5       13.6       .4
    4.0          5.1       16.4          327.6       14.9     -1.1
    4.5          4.6       16.6          333.4       14.6     -2.1
    5.0          4.5       17.4          337.1       15.4     -3.0
    5.5          5.6       18.1          341.3       16.3     -4.5
    6.0          6.4       18.5          345.9       17.0     -5.9
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      142.8       5.4
     2       40.9       6.1
     3      215.3       7.2
     4      243.4       8.5
     5      303.1      10.0
     6      360.9      11.6
     7      414.4      13.7
     8      269.1      15.4
     9      477.4      18.3
    10      578.3      20.8
    11      662.5      23.4
    12      738.1      27.6


         HEIGHT  DIRECTION  SPEED  TEMP
          FEET    DEGREES   FT/SEC

           349.     188      30.6   5.5
           362.     186      32.6   4.6
           650.     186      34.7   3.9
           967.     188      36.9   3.2
          1302.     184      36.8   2.1
          1555.     183      40.7   1.3
          1994.     181      37.8    .4
          2329.     180      45.2  -1.1
          2775.     183      53.1  -2.1
          3320.     189      49.0  -3.0
  3920.      192         65.3  -4.5

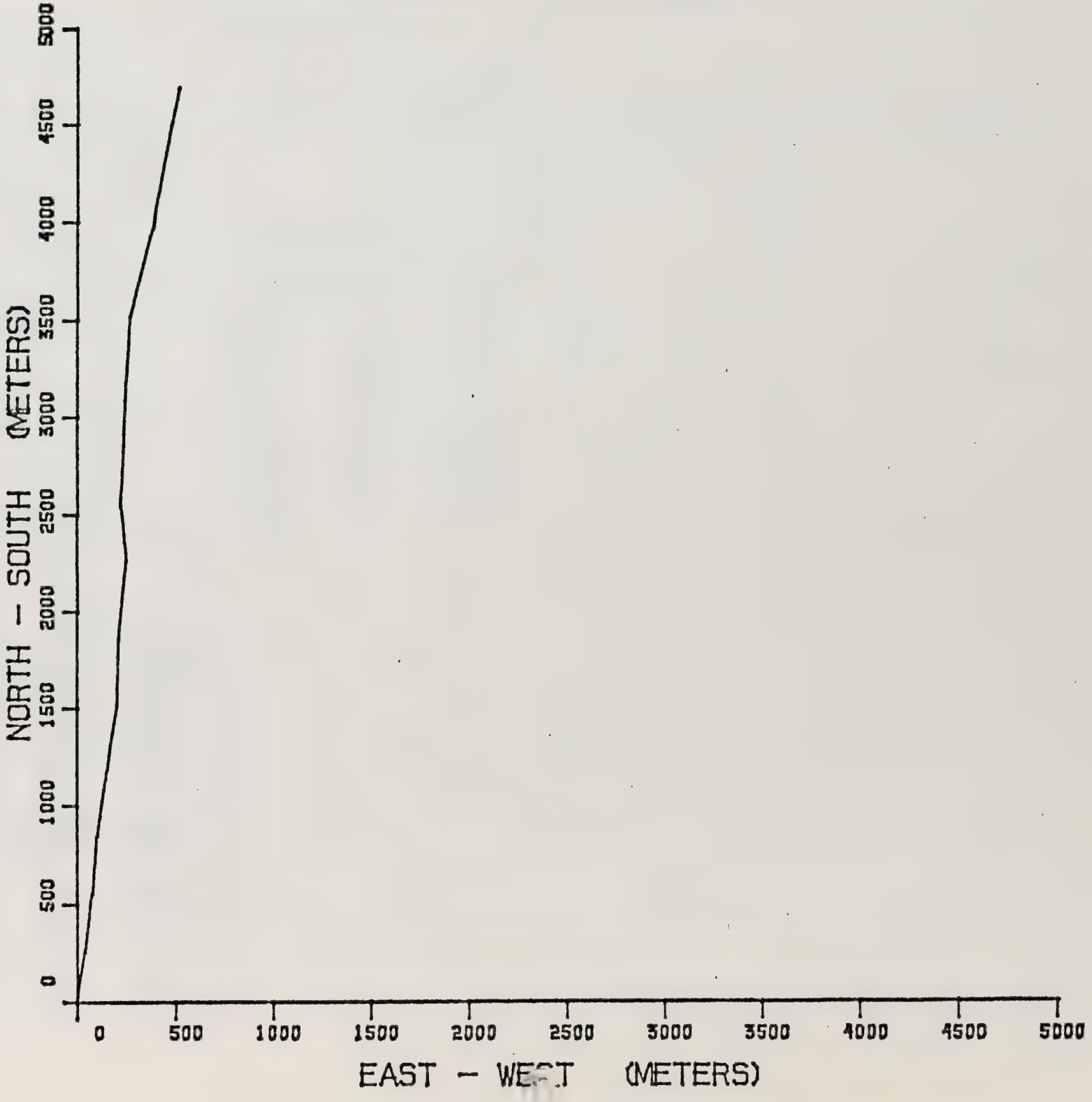

HEIGHT  DIRECTION  SPEED  TEMP
METERS   DEGREES   M/SEC

  106.      188        9.3   5.5
  110.      186        9.9   4.6
  198.      186       10.6   3.9
  295.      188       11.2   3.2
  397.      184       11.2   2.1
  474.      183       12.4   1.3
  608.      181       11.5    .4
  710.      160       13.8  -1.1
  846.      183       16.2  -2.1
 1012.      189       14.9  -3.0
 1195.      192       19.9  -4.5
```

C-B SOUNDING – PLOTTED ON 10/MAY/78

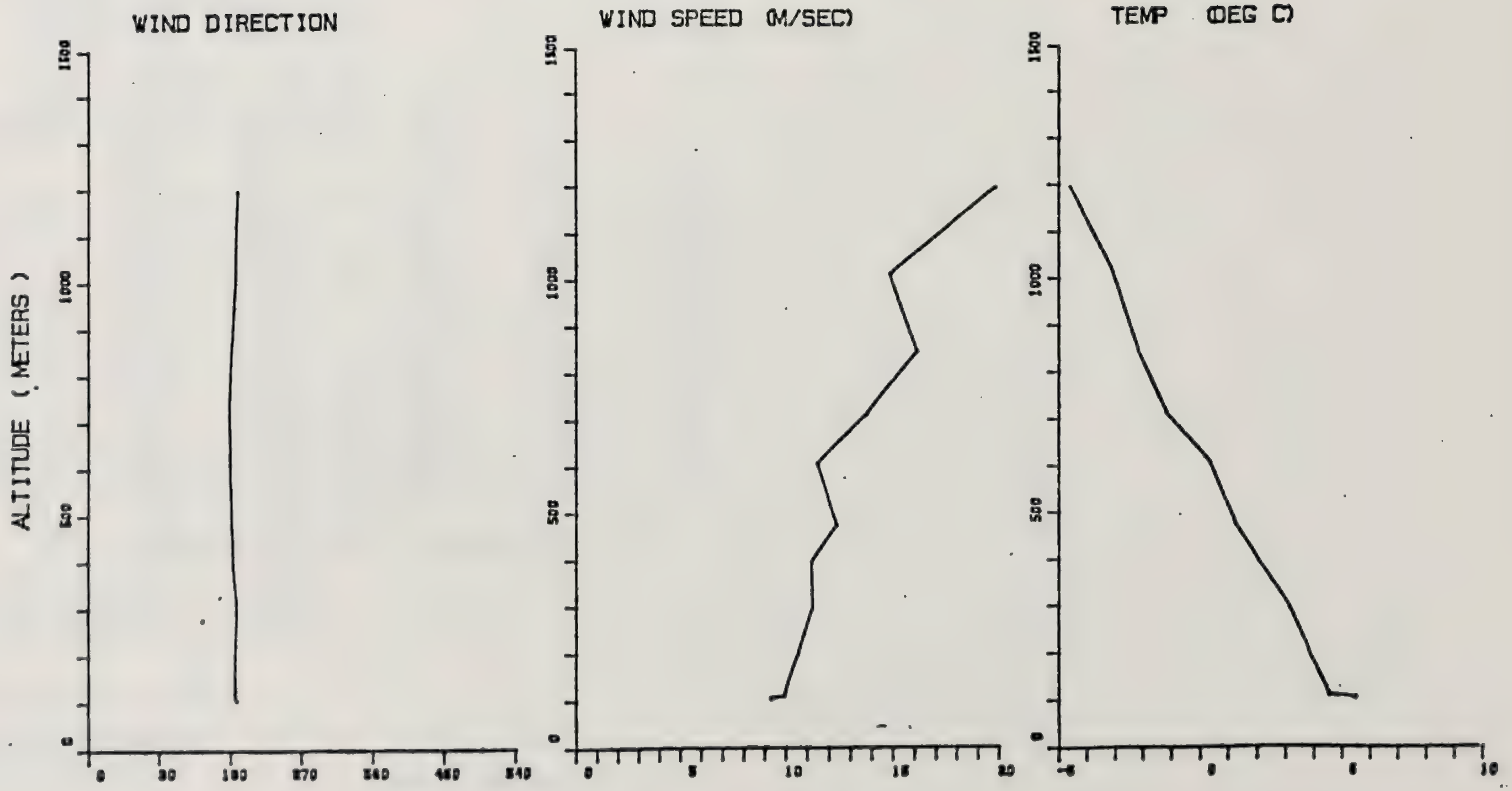
TIME 1430 DATE 2/10/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C–B SOUNDING – PLOTTED ON 10/MAY/78

TIME 1450 DATE 2/10/78



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C-B PIBAL SOUNDING                RUN ON 12/MAY/78

SOUNDING DATE  2-13-78

BALLOON RELEASED  820 CST

BASE LINE ANGLE               78.4
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)       -100.0

             THEODOLITE #1          THEODOLITE #2

   TIME     AZIMUTH  ELEVATION      AZIMUTH  ELEVATION   TEMP
    .0         .0         .0         258.5        .0       .0
    .5      355.7       28.7         259.2       2.5      2.1
   1.0         .8       57.5         262.3       6.2      1.8
   1.5       17.9       45.5         267.1       9.8      1.5
   2.0       26.5       37.5         273.5      14.3       .9
   2.5       31.2       33.5         280.7      18.8      -.1
   3.0       34.1       31.1         288.6      23.8     -1.1
   3.5       36.1       29.4         298.3      26.7     -1.6
   4.0       41.1       28.9         315.2      38.5     -2.1
   4.5       43.5       29.6         322.0      43.0     -2.7
   5.0       45.6       30.0         328.5      46.8     -4.0
   5.5       47.5       30.2         335.8      49.2     -5.2
   6.0       48.0       30.5         342.3      51.4     -5.7
   6.5       48.9       31.4         346.3      53.0     -5.7
   7.0       50.0       31.5         354.5      54.2     -6.7
   7.5       52.3       31.1           6.3      54.8     -6.1
   8.0       56.0       30.8          20.9      56.2     -5.9
   8.5       63.0       30.0          33.9      56.8     -6.1
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO       ERROR

    1      86.6        4.9
    2      50.7        5.3
    3      75.1        5.6
    4      65.3        5.9
    5      77.1        6.3
    6      52.6        6.7
    7      43.7        7.2
    8      10.8        8.3
    9      29.0        8.7
   10      64.0        9.2
   11      39.4        9.6
   12     120.9       10.2
   13     104.9       10.6
   14     139.2       11.3
   15     157.0       12.1
   16     257.7       13.0
   17      32.0       12.9

        HEIGHT  DIRECTION  SPEED  TEMP
         FEET    DEGREES   FT/SEC
   64.      180        5.5   2.1
  512.      200       12.1   1.8
  826.      212       20.2   1.5
 1135.      218       23.0    .9
 1410.      222       22.6   -.1
 1685.      223       22.9  -1.1
 1966.      232       30.3  -1.6
 2540.      241       25.6  -2.1
 2831.      254       13.3  -2.7
 3081.      254       12.7  -4.0
 3293.      248       12.0  -5.2
 3567.      246        9.0  -5.7
 3798.      249       10.7  -5.7
 4083.      253       18.2  -6.7
 4383.      267       24.1  -6.1
 4725.      297       25.6  -5.9

HEIGHT  DIRECTION  SPEED   TEMP
METERS   DEGREES   M/SEC

   20.      180        1.7   2.1
  156.      200        3.7   1.8
  252.      212        6.2   1.5
  346.      218        7.0    .9
  430.      222        6.9   -.1
  514.      223        7.0  -1.1
  599.      232        9.2  -1.6
  774.      241        7.8  -2.1
  863.      254        4.1  -2.7
  939.      254        3.9  -4.0
 1004.      248        3.7  -5.2
 1087.      246        2.7  -5.7
 1158.      249        3.3  -5.7
 1245.      253        5.5  -6.7
 1336.      267        7.3  -6.1
 1440.      297        7.6  -5.9
```
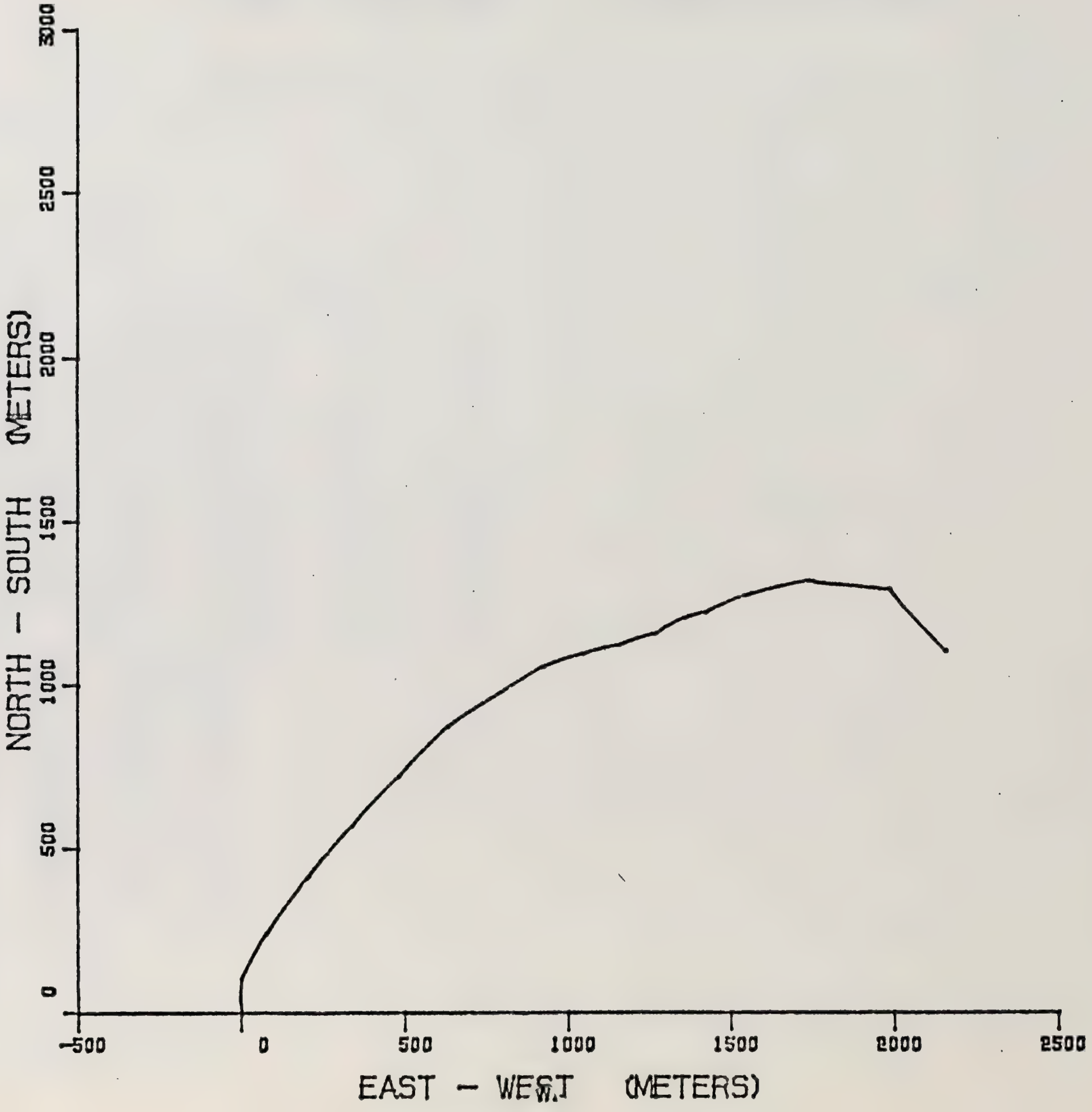

C-B SOUNDING - PLOTTED ON 12/MAY/78

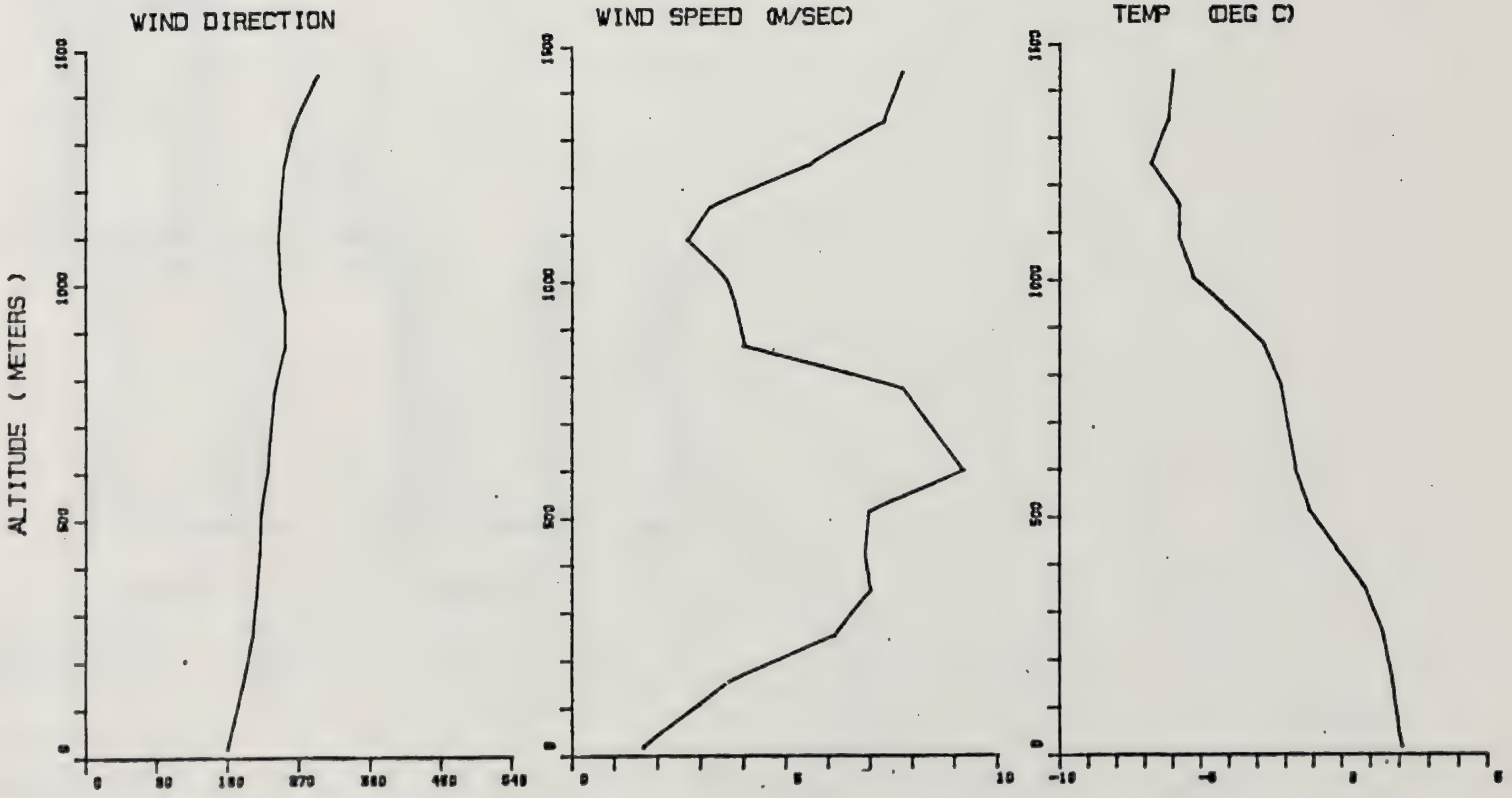
TIME 820 DATE 2/13/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C—B SOUNDING — PLOTTED ON 12/MAY/78

TIME 820 DATE 2/15/78



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C-B PIBAL SOUNDING                          RUN ON 12/MAY/78

SOUNDING DATE  2-13-78

BALLOON RELEASED 1345 CST


BASE LINE ANGLE              78.4
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)      -100.0

                THEODOLITE #1              THEODOLITE #2


    TIME       AZIMUTH  ELEVATION        AZIMUTH  ELEVATION     TEMP
     .0             .0         .0         258.5         .0        .0
     .5          349.3       22.8         263.2        2.1       2.6
    1.0          346.9       23.3         267.8        4.0       1.6
    1.5          349.6       25.3         272.2        6.4        .6
    2.0          351.9       26.5         276.9        8.8        .4
    2.5          356.4       28.5         280.5       11.5       -.3
    3.0             .6       29.8         283.6       13.9      -1.3
    3.5            4.0       32.1         286.8       16.4      -1.8
    4.0            8.2       32.9         294.8       17.6      -2.7
    4.5           10.4       33.3         295.1       19.4      -4.5
    5.0           13.1       33.8         301.7       23.6      -5.3
    5.5           17.8       34.1         305.6       27.3      -6.4
    6.0           19.2       34.3         309.3       28.7      -7.4
    6.5           22.2       34.1         314.1       29.9      -7.4
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1       82.8        5.2
     2       92.2        5.7
     3       91.5        6.2
     4      106.0        6.7
     5       99.3        7.0
     6       93.4        7.3
     7      151.5        7.6
     8      487.8        8.2
     9      388.3        8.2
    10      371.7        9.0
    11      293.6        9.3
    12      351.2        9.7
    13      459.2       10.0


        HEIGHT  DIRECTION  SPEED  TEMP
         FEET    DEGREES   FT/SEC

         172.      167      14.6   2.6
         362.      170      14.6   1.6
         595.      177      14.9    .6
         847.      187      13.5    .4
        1100.      203      11.2   -.3
        1316.      210      10.2  -1.3
        1580.      206      15.9  -1.8
        1870.      212      12.0  -2.7
```

```
 1962.       215        11.5  -4.5
 2396.       221        16.7  -5.3
 2654.       232        12.2  -6.4
 2843.       226        12.0  -7.4

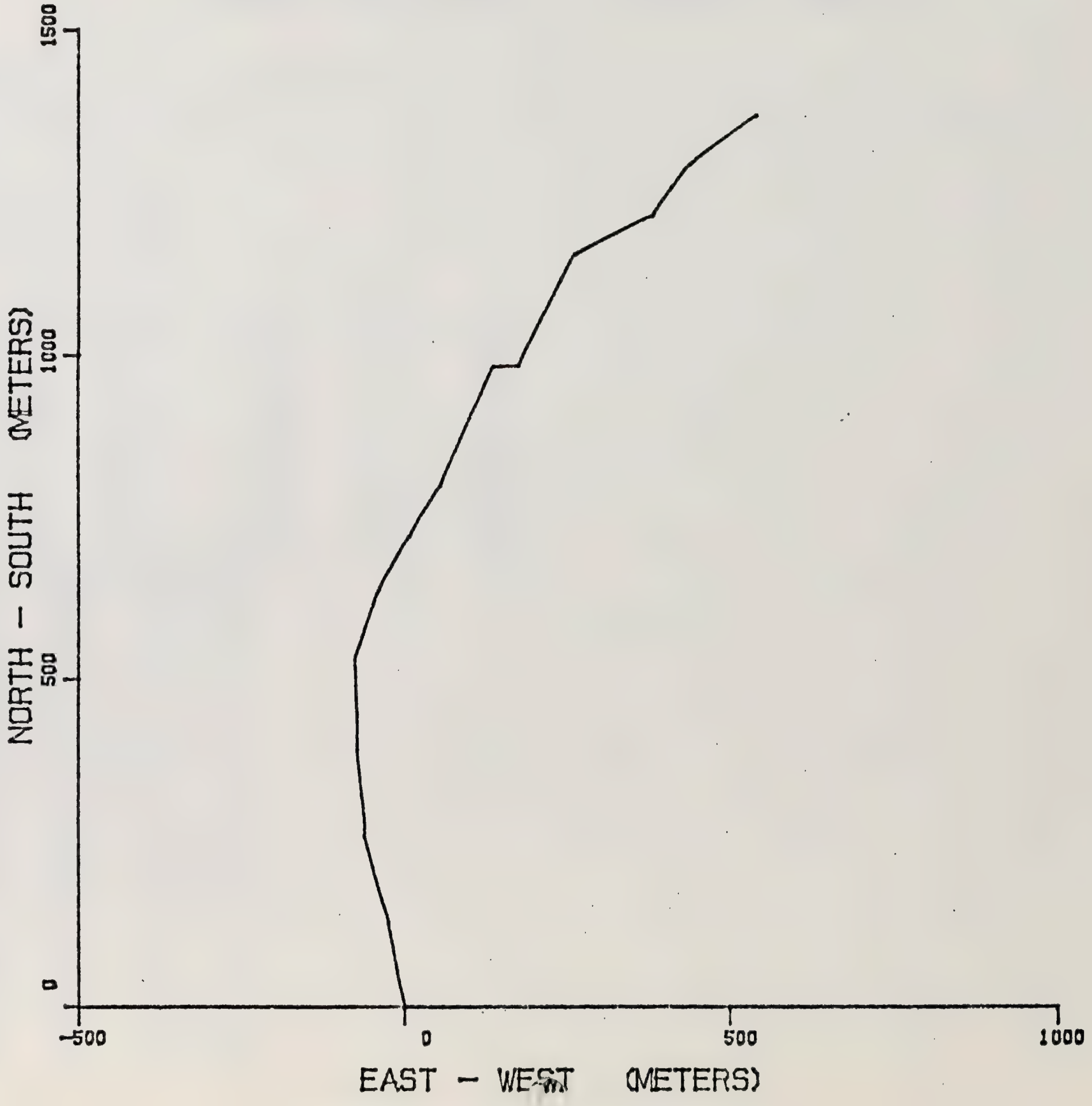
HEIGHT  DIRECTION  SPEED  TEMP
METERS   DEGREES   M/SEC

   52.       167         4.5   2.6
  110.       170         4.5   1.6
  181.       177         4.5    .6
  258.       187         4.1    .4
  335.       203         3.4   -.3
  401.       210         3.1  -1.3
  482.       206         4.8  -1.8
  570.       212         3.7  -2.7
  598.       215         3.5  -4.5
  730.       221         5.1  -5.3
  809.       232         3.7  -6.4
  867.       226         3.7  -7.4
```

C-B SOUNDING — PLOTTED ON 12/MAY/78

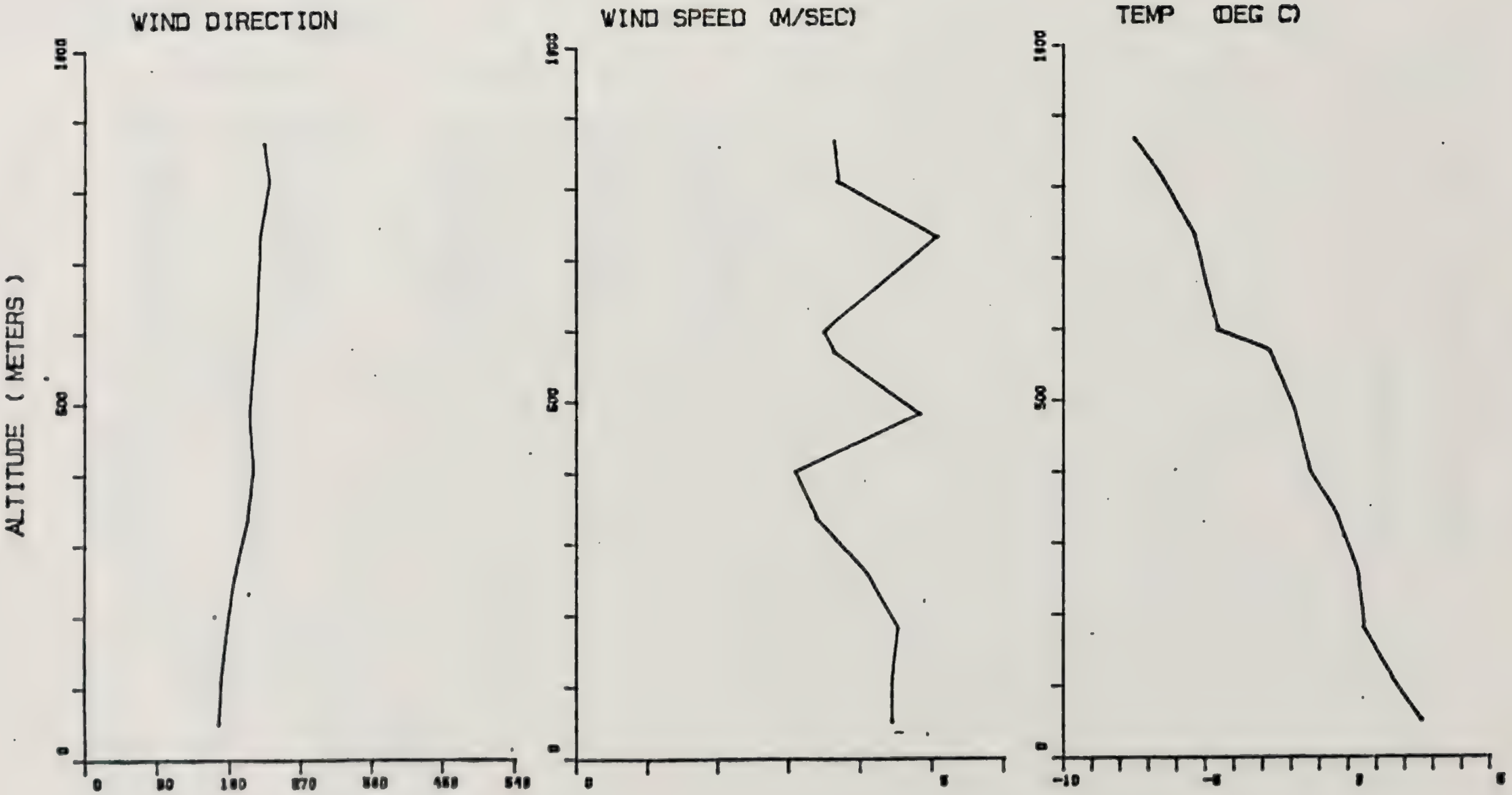
TIME 1345 DATE 2/13/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 12/MAY/78

TIME 1345 DATE 2/13/78



C-b Sounding

Time: Morning   Date: 2-15-78

Morning sounding, no data taken due to snow.

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C-B PIBAL SOUNDING                        RUN ON 12/MAY/78

SOUNDING DATE  2-15-78

BALLOON RELEASED 1400 CST

BASE LINE ANGLE             78.4
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)     -100.0

               THEODOLITE #1             THEODOLITE #2

    TIME       AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0            .0         .0          258.5        .0        .0
     .5          10.2       67.7          261.7       4.6      -1.0
    1.0           9.2       62.7          265.5       8.0      -1.1
    1.5          14.2       47.7          268.0      11.3      -1.0
    2.0          19.8       44.2          272.9      15.5       -.9
    2.5          25.0       44.1          277.0      20.5       -.8
    3.0          30.6       42.2          282.2      25.5       -.6
    3.5          35.1       40.5          288.1      30.8       -.9
    4.0          38.3       30.8          295.5      37.1      -2.5

COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO        ERROR

    1      167.5        5.1
    2      308.6        5.5
    3       71.9        5.7
    4       88.1        6.1
    5       93.2        6.5
    6      106.1        6.8
    7      111.1        7.2
    8      420.2        7.3


         HEIGHT  DIRECTION  SPEED  TEMP
          FEET    DEGREES   FT/SEC

          392.      187       7.4  -1.0
          770.      195      12.1  -1.1
          967.      204      15.8  -1.0
         1307.      215      15.2   -.9
         1685.      225      15.8   -.8
         2009.      231      17.9   -.6
         2320.      237      22.7   -.9


         HEIGHT  DIRECTION  SPEED  TEMP
         METERS   DEGREES   M/SEC

          119.      187       2.3  -1.0
          235.      195       3.7  -1.1
          295.      204       4.8  -1.0
```
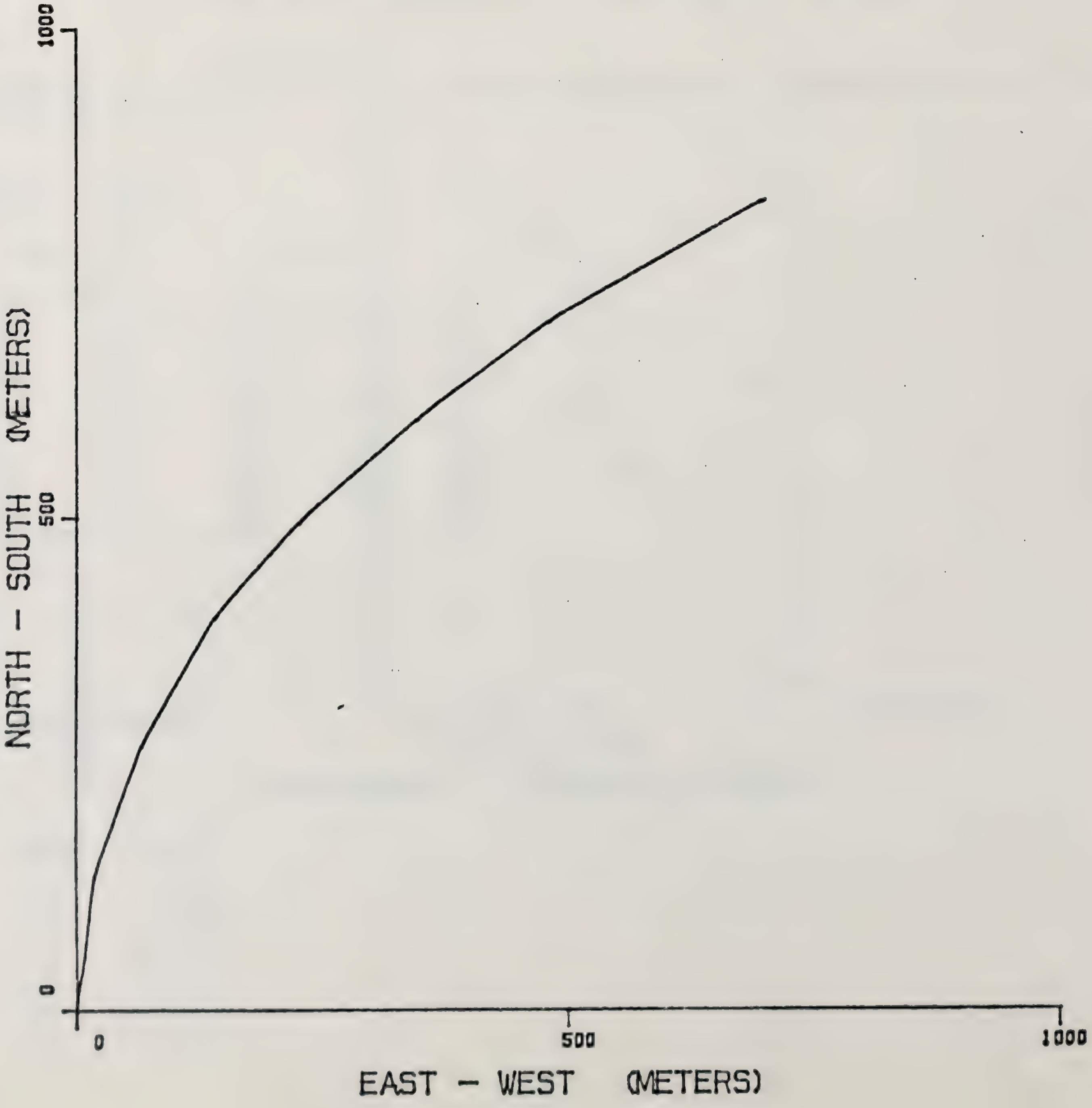

```
398.    215       4.6  -.9
514.    225       4.8  -.8
612.    231       5.5  -.6
707.    237       6.9  -.9
```

C-B SOUNDING - PLOTTED ON 12/MAY/78

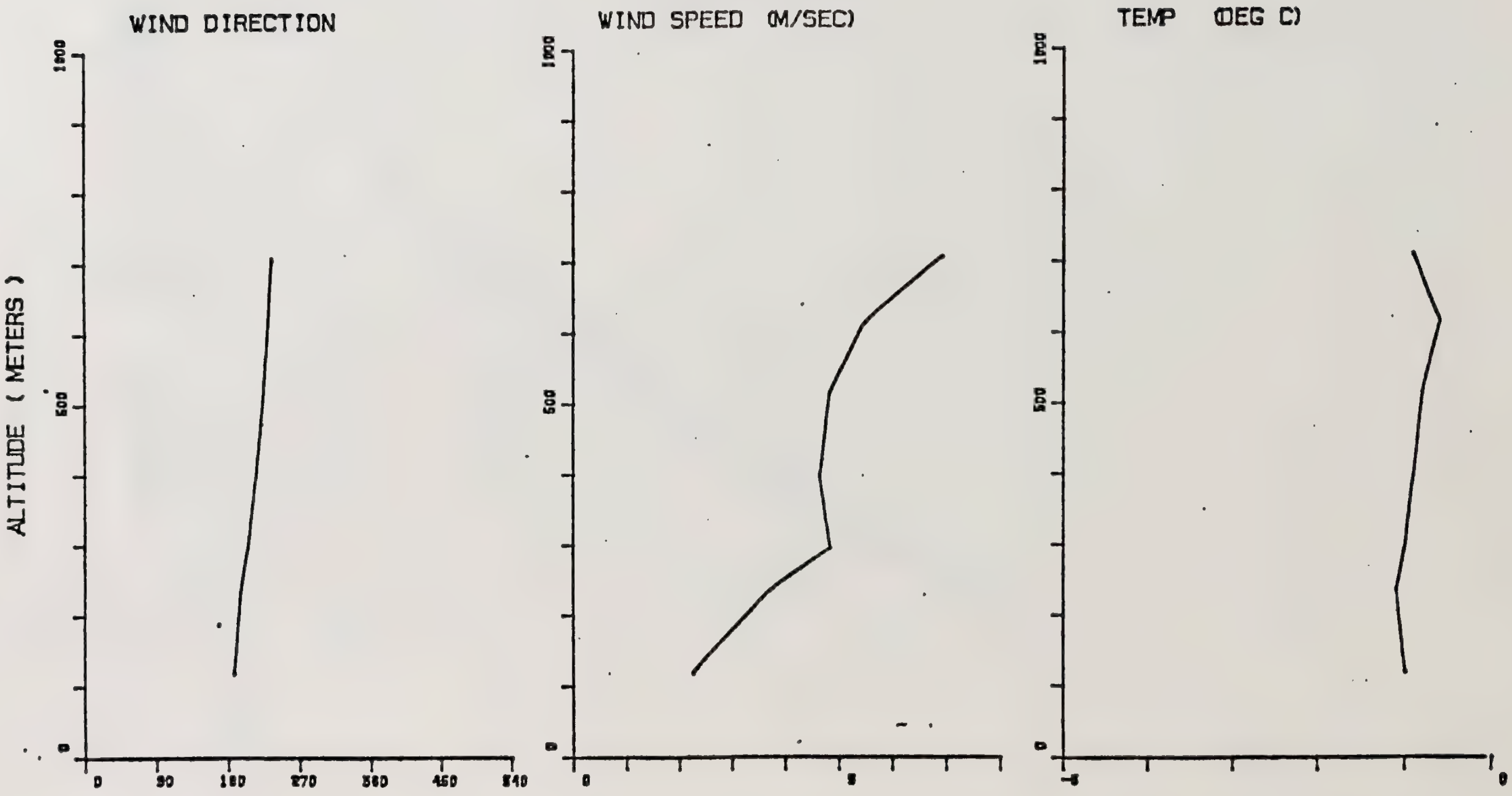
TIME 1400 DATE 2/15/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 12/MAY/78

TIME 1400 DATE 2/15/78



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C-B PIBAL SOUNDING      ,              RUN ON 11/MAY/78

SOUNDING DATE  2-17-78

BALLOON RELEASED  810 CST

BASE LINE ANGLE            78.4
BASE LINE LENGTH (FT)    5473.5
TIME INTERVAL (SEC)        30.0
BASE LINE HEIGHT (FT)    -100.0

                THEODOLITE #1            THEODOLITE #2

   TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION   TEMP
    .0           .0         .0          258.5        .0       .0
    .5        280.2       70.3          258.9       3.5     -11.
   1.0        321.1       75.2          260.0       7.6     -12.
   1.5        272.7       85.3          257.1      10.6     -14.
   2.0        199.5       69.7          254.1      12.8     -15.
   2.5        190.5       59.2          249.3      15.8     -17.
   3.0        186.0       51.3          243.6      18.9     -17.
   3.5        182.2       45.3          237.4      20.7     -19.
   4.0        178.3       34.8          230.0      22.6     -20.
   4.5        175.8       35.1          222.3      23.4     -21.
   5.0        173.7       30.9          216.1      23.1     -22.
   5.5        171.7       28.0          208.1      23.4     -22.
   6.0        170.0       26.2          203.3      23.4     -23.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO       ERROR

    1       11.7       5.1
    2         .2       5.5
    3      149.7       5.7
    4       51.2       6.3
    5       62.2       7.0
    6       18.5       7.9
    7       50.5       8.9
    8        6.0      10.3
    9        8.3      11.9
   10       64.4      13.3
   11       96.2      15.8
   12      167.5      17.5

        HEIGHT  DIRECTION  SPEED  TEMP
         FEET    DEGREES   FT/SEC

          241.      142       2.8 -10.7
          641.      339        .6 -12.2
          935.        4       9.4 -13.8
         1213.        6      15.7 -15.1
         1595.        0      19.7 -16.6
         2018.      357      23.6 -17.5
         2366.      352      28.7 -18.8
         2763.      349      35.3 -19.8
         3135.      347      36.6 -20.8
         3317.      345      45.0 -21.6
```

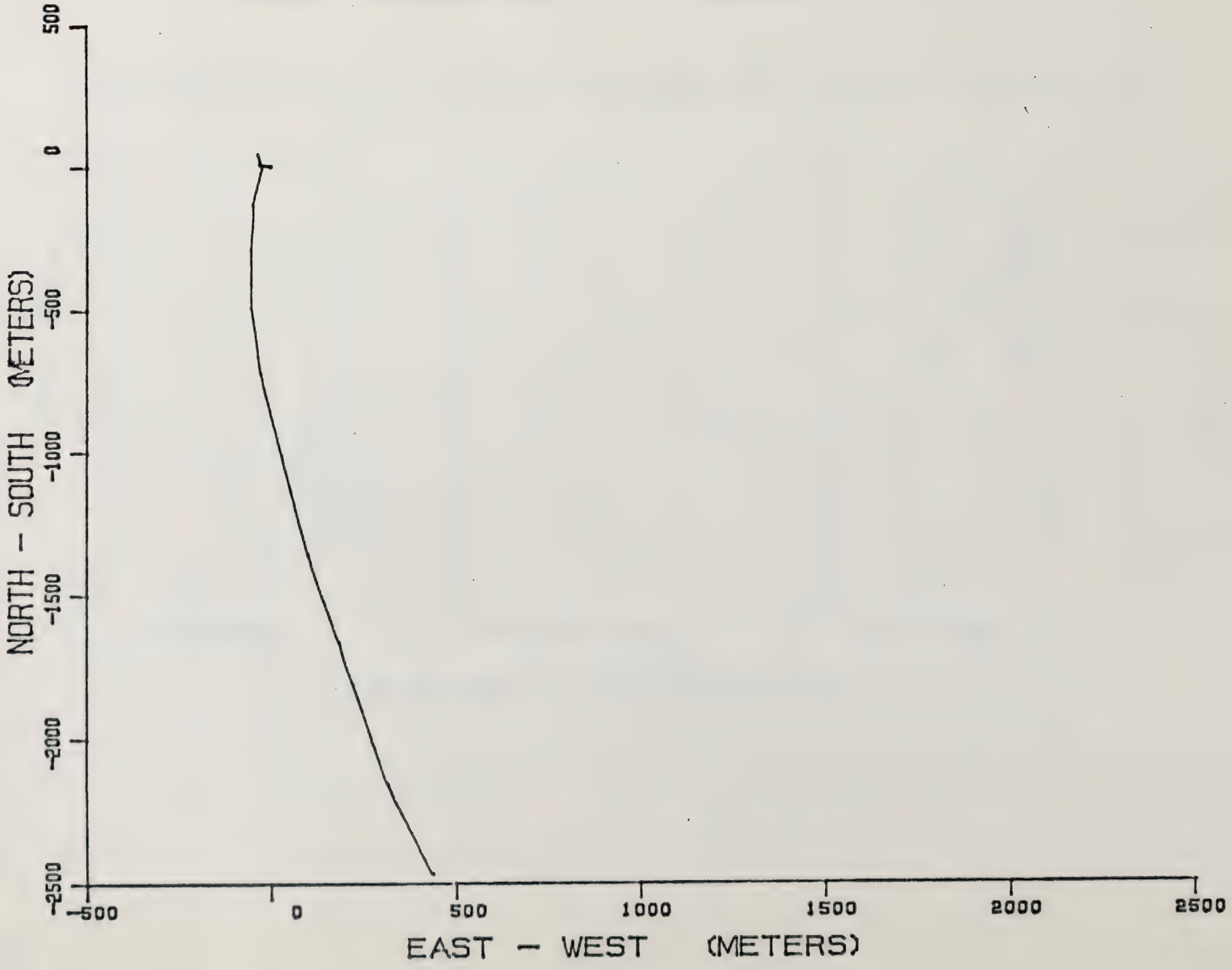
3838.	343	46.0	-22.4

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
74.	142	.9	-10.7
195.	339	.2	-12.2
285.	4	2.9	-13.8
370.	6	4.8	-15.1
486.	0	6.0	-16.6
615.	357	7.2	-17.5
721.	352	8.7	-18.8
842.	349	10.8	-19.8
955.	347	11.2	-20.8
1011.	345	13.7	-21.6
1170.	343	14.0	-22.4

C–B SOUNDING — PLOTTED ON 11/MAY/78

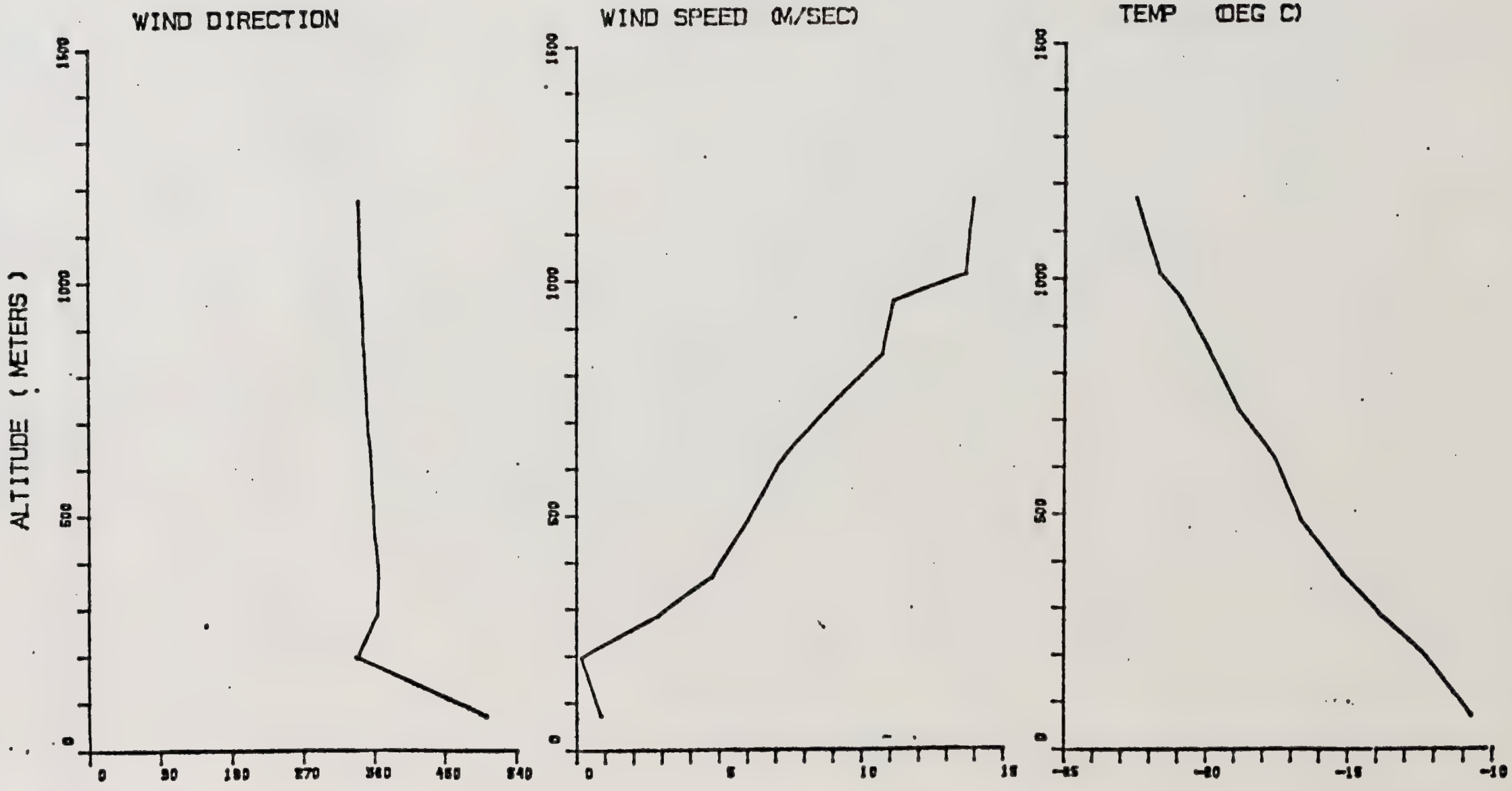
TIME 810 DATE 2/17/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C–B SOUNDING – PLOTTED ON 11/MAY/78

TIME 810 DATE 2/17/78



C-b Sounding

Time: 1345 Date: 2-17-78

No data taken. Balloon lost immediately.

```
C-B PIBAL SOUNDING                         RUN ON 16/MAY/78

SOUNDING DATE  2-21-78

BALLOON RELEASED  810 CST

BASE LINE ANGLE             78.4
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)     -100.0

                THEODOLITE #1            THEODOLITE #2

   TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION     TEMP
    .0           .0        .0          258.5        .0         .0
    .5        293.6      33.9          260.3       2.4       -3.8
   1.0        291.1      35.7          261.7       4.6       -4.2
   1.5        292.1      39.6          262.9       6.7       -4.7
   2.0        300.1      41.2          265.1       8.8       -5.1
   2.5        307.3      42.1          267.4      11.8       -5.6
   3.0        313.8      44.8          269.2      13.0       -6.0
   3.5        318.0      49.2          269.6      14.9       -6.7
   4.0        317.9      58.2          267.6      17.4       -6.7
   4.5        307.5      67.5          263.6      19.7       -6.8
   5.0        264.2      76.0          258.0      21.7       -7.1
   5.5        224.0      70.5          252.8      22.9       -7.6
   6.0        207.5      64.7          248.2      24.1       -8.0
   6.5        200.5      60.2          244.7      25.2       -8.4
   7.0        194.8      56.4          241.0      26.3       -8.9
   7.5        191.2      51.9          236.7      26.8       -9.6
   8.0        189.9      47.7          232.6      26.9       -9.6
   8.5        189.9      43.3          228.5      26.5       -9.7
   9.0        189.8      39.5          225.0      25.7       -10.
   9.5        188.6      36.7          221.2      25.5       -10.
  10.0        187.7      34.5          218.2      25.1       -11.
  10.5        186.6      33.1          215.9      24.7       -11.
  11.0        185.8      31.6          213.2      24.5       -11.
  11.5        184.1      29.8          210.0      23.9       -11.
  12.0        182.3      28.2          206.6      23.4       -11.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

    1       49.4        5.2
    2       42.3        5.8
    3       50.1        6.3
    4       51.9        6.8
    5       27.7        7.3
    6       40.5        7.5
    7       36.4        7.5
    8        2.2        7.5
    9       98.6        7.5
   10      105.0        7.7
   11      104.4        8.3
   12      117.1        8.8
   13       98.6        9.4
   14       83.8       10.0
   15       88.8       10.8
```

```
16      100.9      11.7
17      109.6      13.0
18      118.3      14.3
19      105.2      15.8
20       96.7      17.1
21      117.1      17.9
22      103.2      19.4
23      106.2      20.8
24      105.0      22.5

      HEIGHT  DIRECTION  SPEED   TEMP
       FEET    DEGREES   FT/SEC

        169.     112       9.4  -3.8
        402.     112       8.9  -4.2
        646.     131       8.1  -4.7
        899.     146      10.4  -5.1
       1233.     165       7.9  -5.6
       1395.     216       4.4  -6.0
       1590.     299       5.0  -6.7
       1820.     335      10.0  -6.7
       2043.     349      15.7  -6.8
       2302.     359      19.5  -7.1
       2554.       2      18.8  -7.6
       2795.     359      16.3  -8.0
       3028.     357      15.4  -8.4
       3264.     356      17.8  -8.9
       3488.       1      21.1  -9.6
       3730.       7      25.5  -9.6
       3994.       9      28.4  -9.7
       4184.       5      29.7 -10.2
       4477.       1      29.5 -10.4
       4697.     359      23.9 -10.7
       4823.     358      25.0 -11.1
       5105.     355      31.1 -11.1
       5282.     349      35.0 -11.1

      HEIGHT  DIRECTION  SPEED   TEMP
      METERS   DEGREES   M/SEC

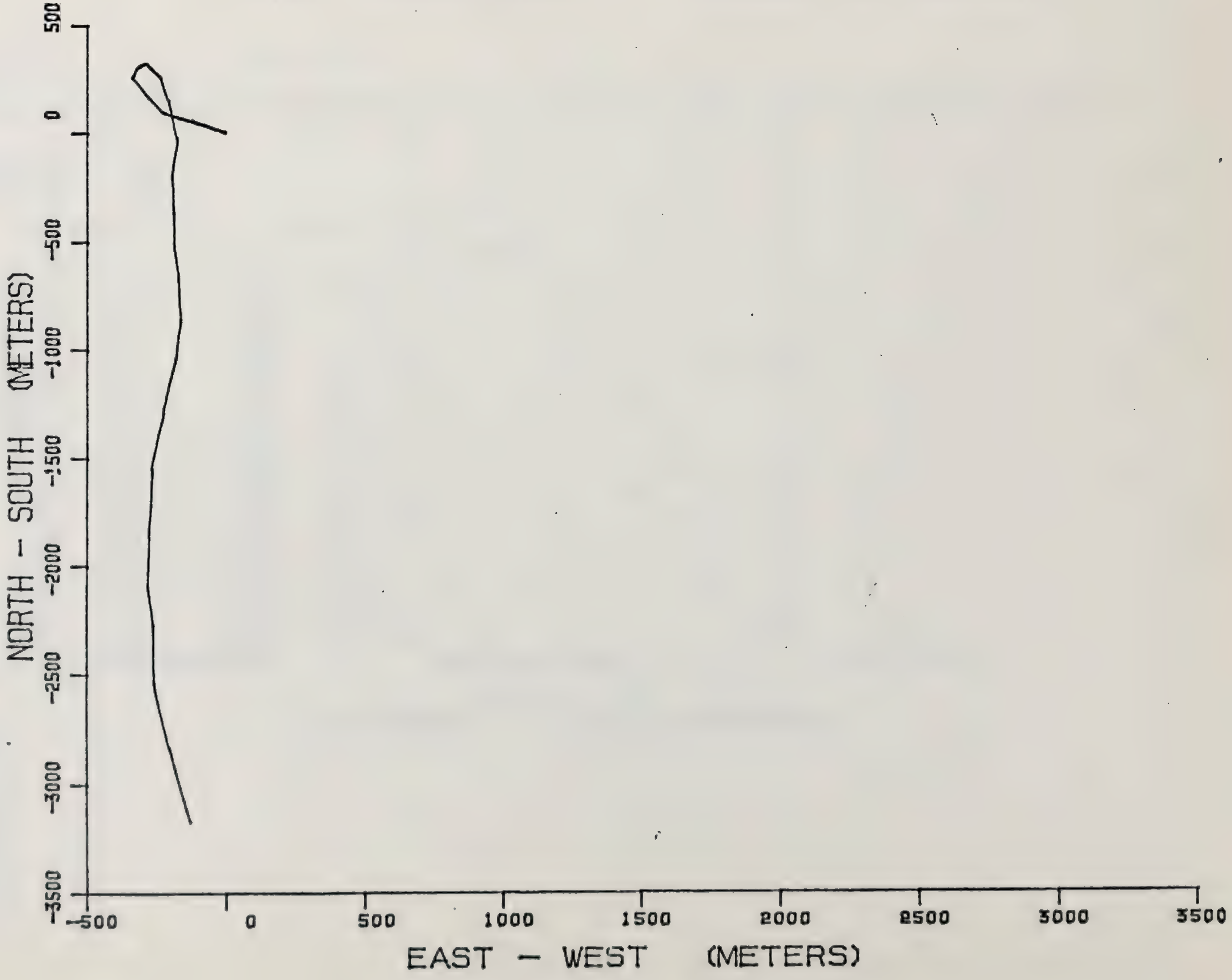
         51.     112       2.9  -3.8
        123.     112       2.7  -4.2
        197.     131       2.5  -4.7
        274.     146       3.2  -5.1
        376.     165       2.4  -5.6
        425.     216       1.3  -6.0
        485.     299       1.5  -6.7
        555.     335       3.0  -6.7
        623.     349       4.8  -6.8
        702.     359       5.9  -7.1
        779.       2       5.7  -7.6
        852.     359       5.0  -8.0
        923.     357       4.7  -8.4
        995.     356       5.4  -8.9
       1063.       1       6.4  -9.6
       1137.       7       7.8  -9.6
       1210.       9       8.7  -9.7
       1275.       5       9.1 -10.2
```

```
1364.      1       9.0 -10.4
1431.    359       7.3 -10.7
1470.    358       7.6 -11.1
1556.    355       9.5 -11.1
1610.    349      10.7 -11.1
```

C–B SOUNDING – PLOTTED ON 16/MAY/78

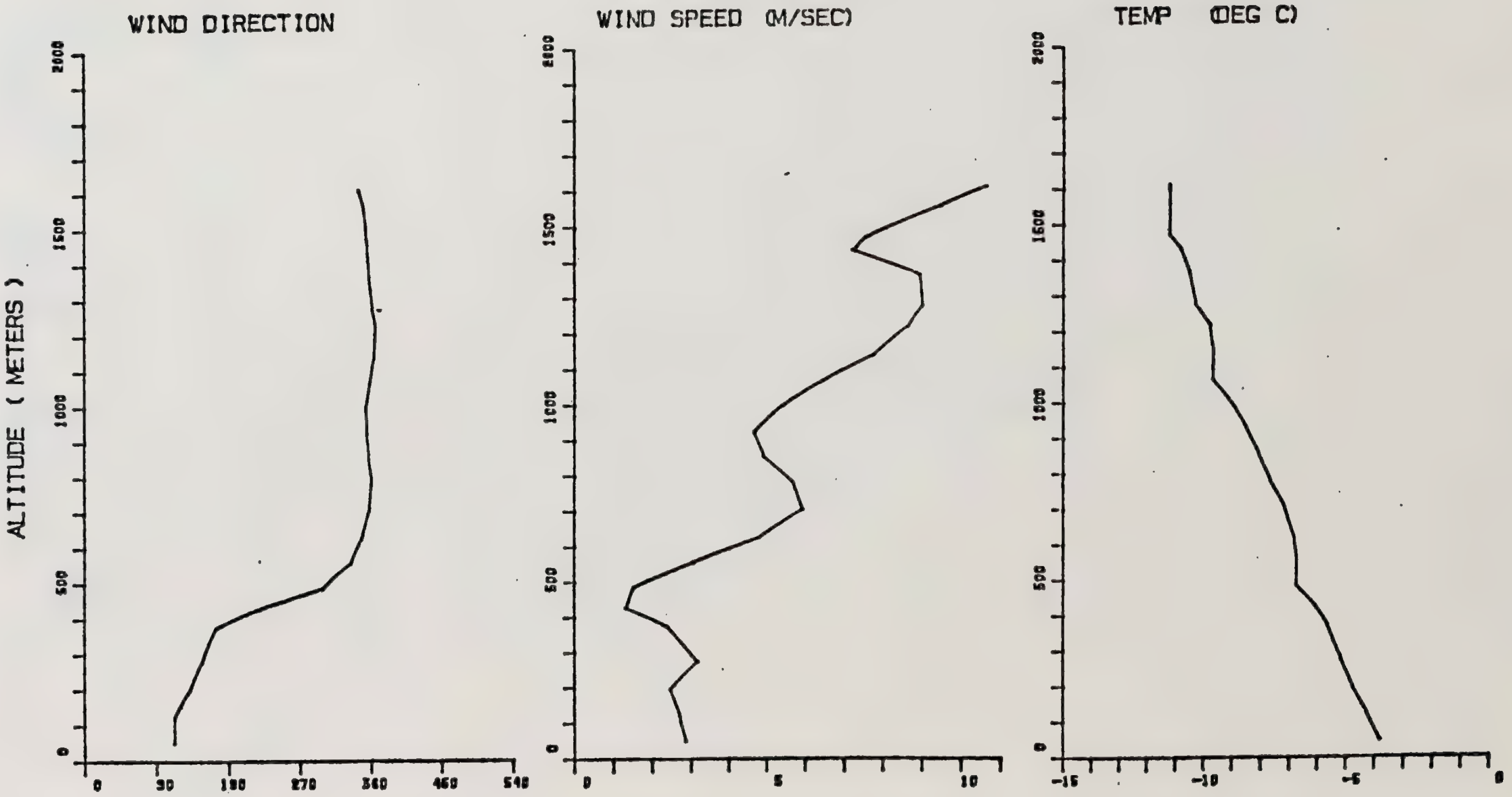
TIME 810 DATE 2/21/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 16/MAY/78

TIME 810 DATE 2/21/78



```
C-R PIBAL SOUNDING                       RUN ON 12/MAY/78

SOUNDING DATE  2-21-78

BALLOON RELEASED 1500 CST


BASE LINE ANGLE              78.4
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)      -100.0

                 THEODOLITE #1             THEODOLITE #2


   TIME        AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
    .0             .0         .0          258.5         .0
    .5          278.0       54.8          259.5        2.9
   1.0          281.1       46.0          260.8        5.3
   1.5          285.8       43.2          262.3        7.0
   2.0          295.0       42.6          265.6        8.6
   2.5          302.1       42.5          267.0       10.4
   3.0          306.4       43.6          269.3       12.6
   3.5          312.6       44.1          271.7       14.7
   4.0          319.1       45.0          274.6       17.1
   4.5          324.1       46.4          276.5       19.0
   5.0          330.1       46.9          279.1       21.1
   5.5          336.2       48.1          281.6       23.7
   6.0          341.5       49.6          283.5       26.1
   6.5          347.9       52.2          280.6       29.2
   7.0          356.9       56.8          284.8       33.2
   7.5            6.7       60.0          282.8       37.7
   8.0           19.9       66.1          278.0       42.5
   8.5           50.3       71.6          268.1       47.8
   9.0           88.3       71.4          254.2       51.6
   9.5          116.4       65.0          235.4       52.5
  10.0          128.0       57.0          219.0       51.7
  10.5          136.2       51.1          207.2       46.1
  11.0          141.9       46.0          199.3       44.3
  11.5          144.4       42.1          194.1       41.4
  12.0          147.5       38.8          190.2       36.5
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME       RHO       ERROR

     1        57.7        5.1
     2        70.8        5.7
     3        83.0        6.3
     4       196.1        6.9
     5       113.9        7.2
     6       134.3        7.8
     7       114.3        8.2
     8       116.6        8.7
     9       121.8        8.9
    10       115.8        9.3
    11       106.5        9.6
    12       111.1        9.8
    13       203.2        9.3
    14       151.5        9.8
    15         4.5        9.7
```

```
16     17.1      9.7
17      7.1      9.6
18     11.5      9.9
19     94.9     10.5
20     80.8     11.4
21    135.5     12.6
22    134.2     14.1
23    119.6     15.2
24     99.9     16.8

       HEIGHT  DIRECTION  SPEED   TEMP
        FEET    DEGREES   FT/SEC

         196.     102       7.6
         469.     109      10.0
         685.     127      10.6
         947.     143      10.0
        1136.     149       9.0
        1441.     156      10.0
        1710.     171      10.8
        2029.     183       9.4
        2262.     196       9.0
        2517.     203      10.3
        2817.     217       9.4
        3078.     278       9.2
        3132.     275      11.6
        3684.     273      12.5
        3936.     313      17.6
        4261.     326      26.3
        4535.     331      33.0
        4808.     335      37.7
        5036.     334      40.6
        5252.     336      39.6
        5464.     343      39.3
        5667.     342      35.2
        5759.     343      33.8

       HEIGHT  DIRECTION  SPEED   TEMP
       METERS   DEGREES   M/SEC

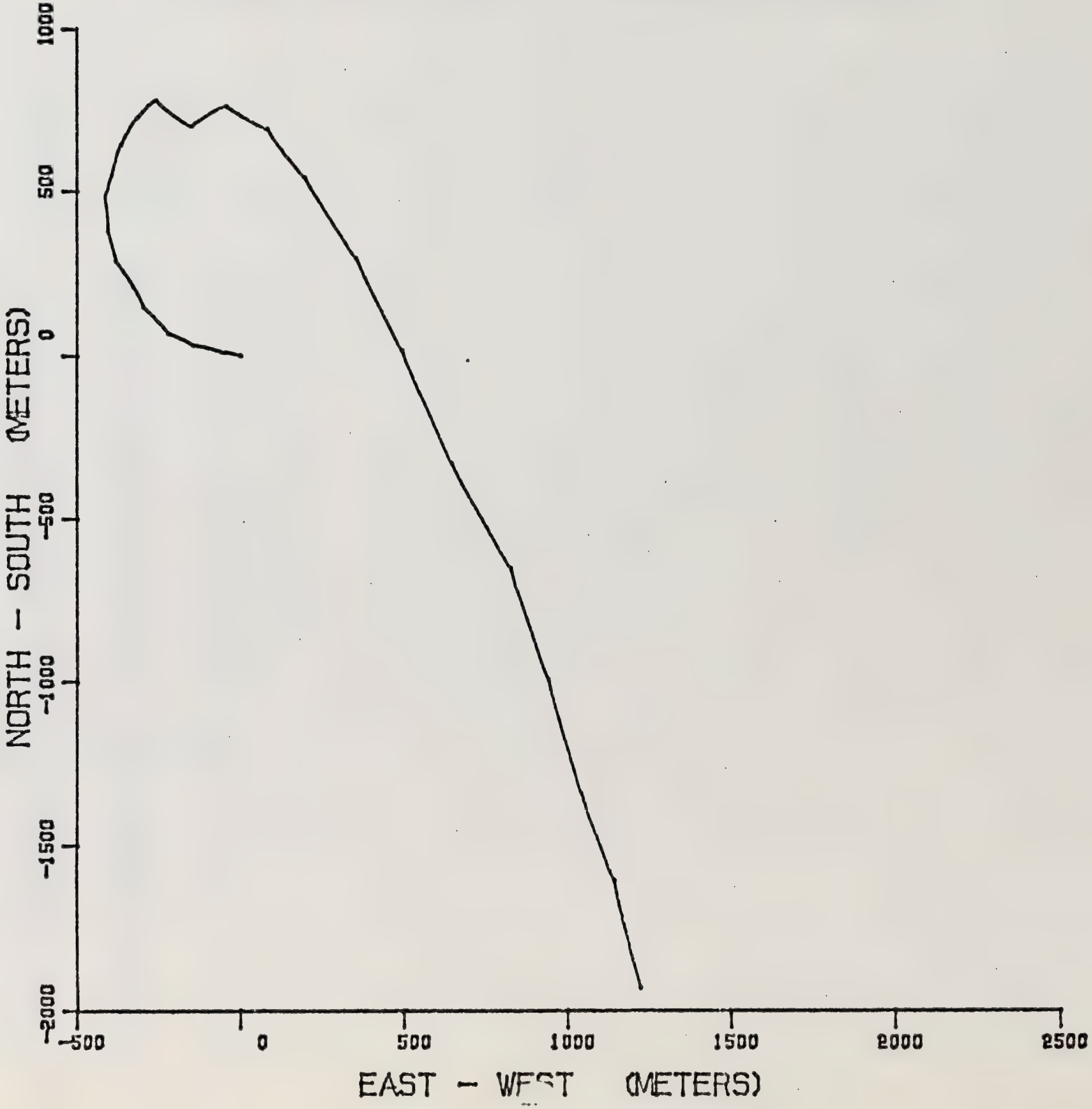
          60.     102       2.3
         143.     109       3.0
         209.     127       3.2
         269.     143       3.0
         347.     149       2.7
         434.     156       3.0
         521.     171       3.3
         618.     183       2.9
         689.     196       2.7
         767.     203       3.1
         859.     217       2.9
         938.     278       2.8
         955.     275       3.6
        1123.     273       3.8
        1200.     313       5.4
        1299.     326       8.0
        1382.     331      10.1
        1466.     335      11.5
```

```
1535.     334     12.4
1601.     336     12.1
1665.     343     12.0
1727.     342     10.7
1755.     343     10.3
```

C-B SOUNDING - PLOTTED ON 12/MAY/78

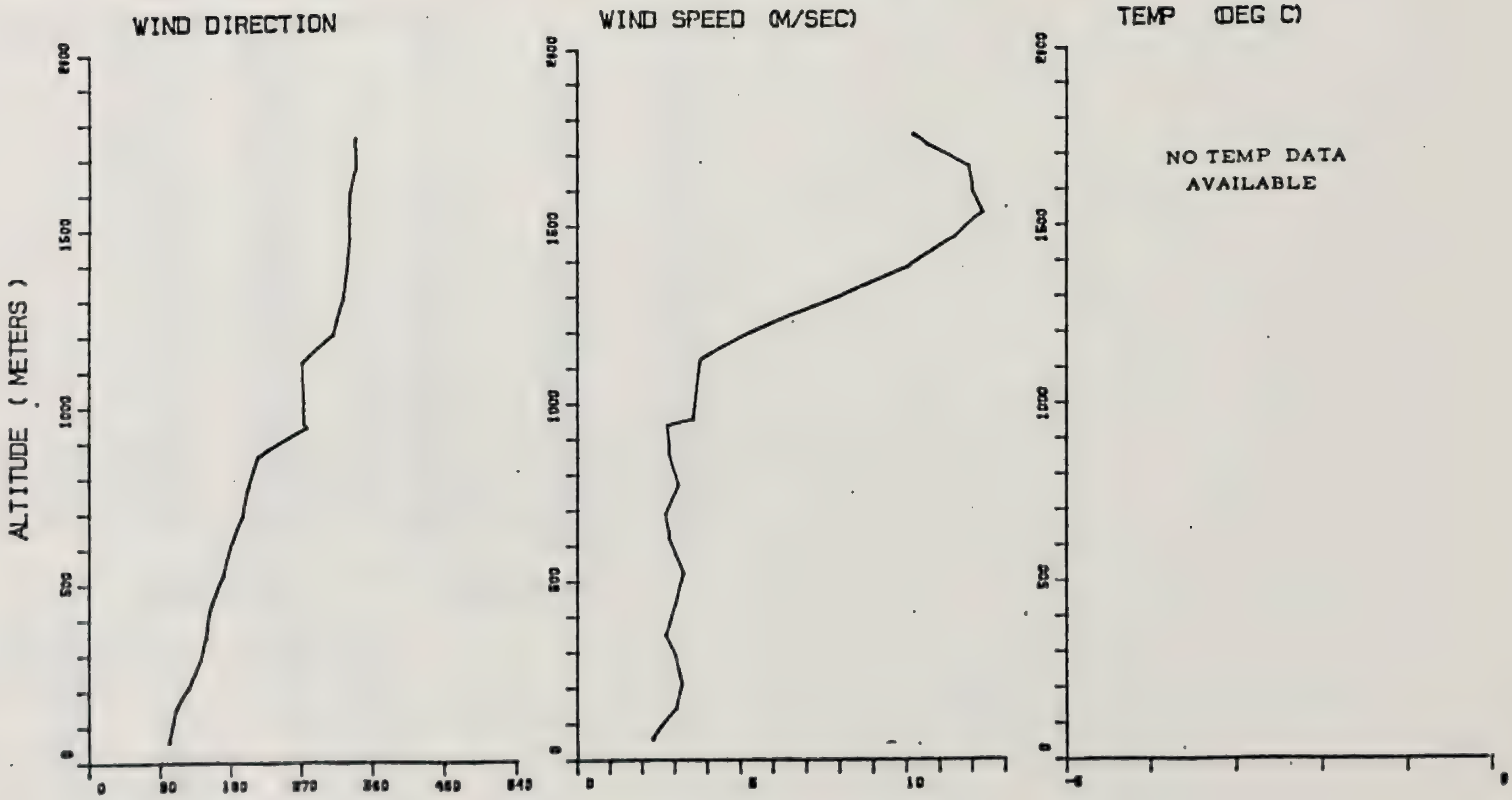
TIME 1500 DATE 2/21/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 12/MAY/78

TIME 1500 DATE 2/21/78



```
C-6 PIBAL SOUNDING                     RUN ON 10/MAY/78

SOUNDING DATE  2-23-78

BALLOON RELEASED  720 CST

BASE LINE ANGLE              78.4
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)      -100.0

                THEODOLITE #1             THEODOLITE #2

    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0            .0         .0         258.5         .0       .0
     .5         306.3       34.0         261.9        2.9     -3.5
    1.0         320.1       42.3         263.5        5.2     -2.5
    1.5         333.3       51.9         265.2        9.2     -1.6
    2.0         344.5       52.3         267.3       11.4     -1.8
    2.5           9.4       49.6         271.4       15.8     -2.1
    3.0          25.8       48.1         274.1       20.8     -1.3
    3.5          35.3       48.2         275.4       25.3     -1.3
    4.0          42.0       48.2         276.6       30.3     -1.6
    4.5          45.2       48.0         278.9       35.1     -2.0
    5.0          47.9       47.0         282.6       40.4     -2.2
    5.5          49.3       46.5         286.5       45.1     -2.7
    6.0          51.1       45.5         292.0       50.9     -3.0
    6.5          52.4       44.3         299.1       55.0     -3.2
    7.0          53.5       43.8         307.9       59.3     -3.8
    7.5          54.5       42.5         318.5       63.4     -4.5
    8.0          57.0       41.1         335.3       67.1     -4.8
    8.5          59.8       39.6         355.6       69.2     -4.9
    9.0          62.0       37.9          15.0       68.2     -5.2
    9.5          63.5       36.8          28.0       66.4     -5.6
   10.0          65.9       35.9          43.3       63.7     -5.9
   10.5          70.8       34.4          57.5       60.6     -6.7
   11.0          74.9       33.1          71.1       55.9     -7.0
   11.5          77.9       31.9          78.2       52.9     -7.3
   12.0          81.0       30.8          83.5       48.6     -7.4
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      91.3        5.4
     2      69.5        5.6
     3      37.5        6.0
     4      53.9        6.2
     5      59.0        6.3
     6      53.5        6.4
     7      61.4        6.5
     8      50.8        6.7
     9      52.5        7.0
    10      60.8        7.4
    11      60.7        7.8
    12      33.5        8.3
    13      62.3        8.7
    14      83.2        9.4
    15       3.3       10.0
```

```
16       3.9       10.8
17       9.8       11.6
18       4.4       12.4
19       9.1       13.2
20      60.6       14.5
21      61.2       15.3
22      45.1       17.2
23      78.8       18.0
24      28.4       20.1

     HEIGHT  DIRECTION  SPEED  TEMP
      FEET    DEGREES   FT/SEC

       253.      141       8.7  -3.5
       466.      181       6.1  -2.5
       840.      195       6.9  -1.6
      1055.      219      12.8  -1.8
      1393.      235      17.9  -2.1
      1711.      251      14.7  -1.3
      1983.      259      11.7  -1.3
      2272.      253      10.7  -1.6
      2565.      245      11.5  -2.0
      2864.      242      11.9  -2.2
      3153.      243      12.8  -2.7
      3486.      243      14.2  -3.0
      3729.      241      14.3  -3.2
      4073.      244      15.6  -3.8
      4368.      251      19.2  -4.5
      4697.      259      22.6  -4.8
      4991.      261      23.5  -4.9
      5213.      260      21.7  -5.2
      5432.      265      24.5  -5.6
      5855.      281      29.8  -5.9
      5984.      289      38.2  -6.7
      6450.      291      35.7  -7.0
      6525.      291      35.5  -7.3

     HEIGHT  DIRECTION  SPEED  TEMP
     METERS   DEGREES   M/SEC

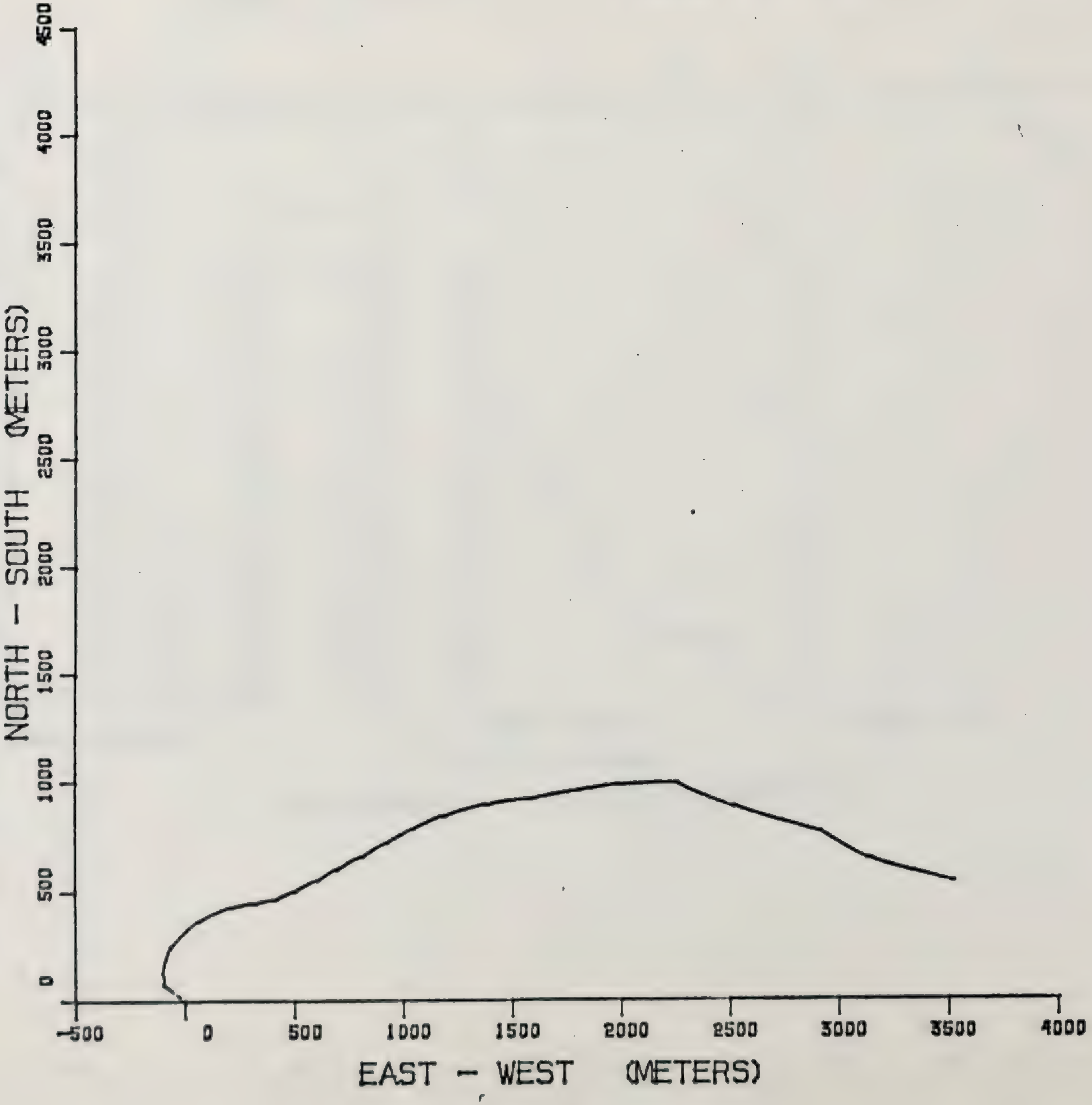
        77.      141       2.7  -3.5
       142.      181       1.9  -2.5
       256.      195       2.1  -1.6
       322.      219       3.9  -1.8
       425.      235       5.5  -2.1
       522.      251       4.5  -1.3
       604.      259       3.6  -1.3
       692.      253       3.3  -1.6
       782.      245       3.5  -2.0
       873.      242       3.6  -2.2
       961.      243       3.9  -2.7
      1063.      243       4.3  -3.0
      1137.      241       4.4  -3.2
      1241.      244       4.8  -3.8
      1331.      251       5.9  -4.5
      1432.      259       6.9  -4.8
      1521.      261       7.2  -4.9
      1589.      260       6.6  -5.2
```

```
1656.     265      7.5  -5.6
1784.     281      9.1  -5.9
1824.     289     11.6  -6.7
1966.     291     10.9  -7.0
1989.     291     10.8  -7.3
```

C-B SOUNDING - PLOTTED ON 10/MAY/78

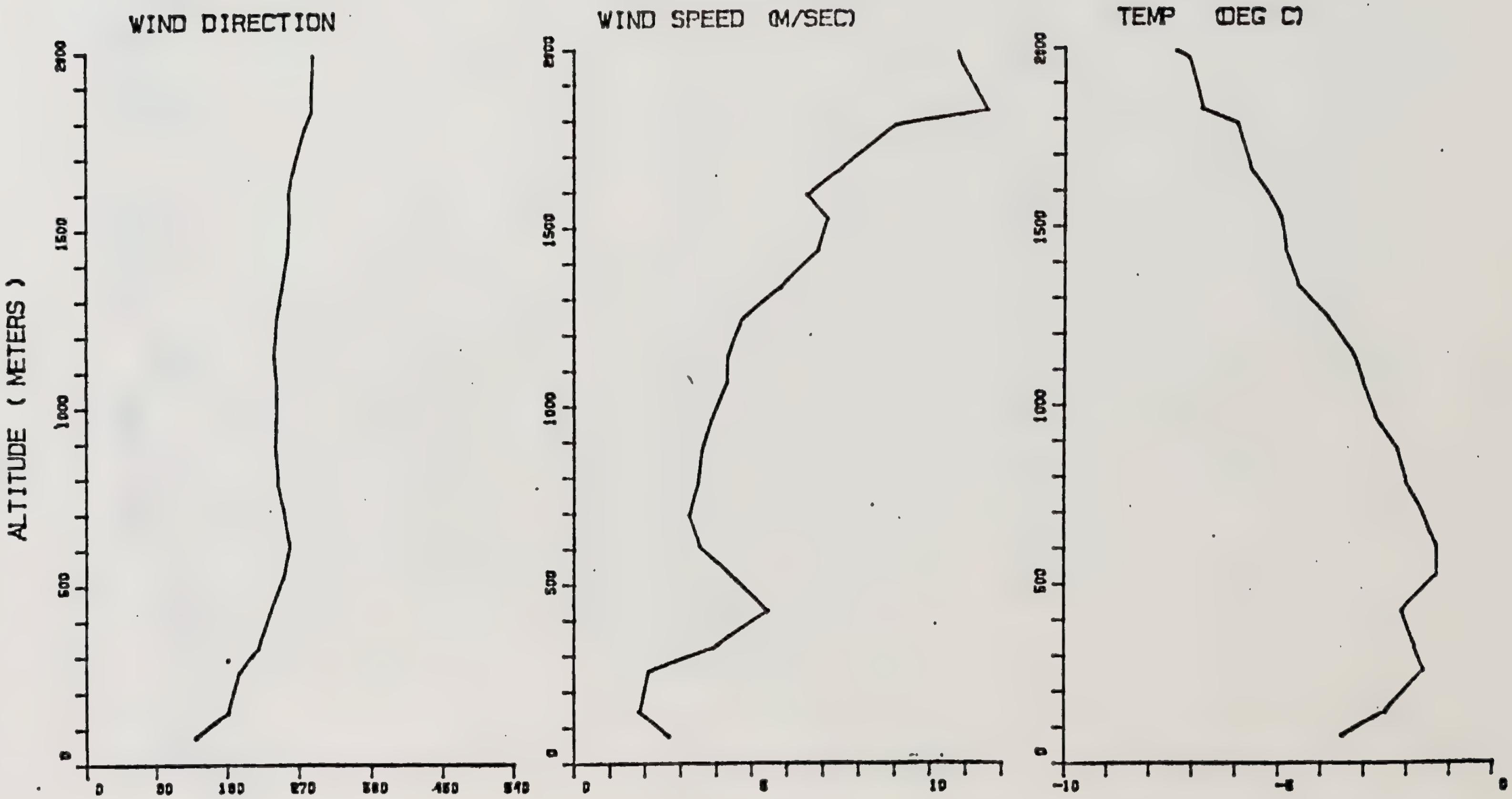
TIME 720 DATE 2/23/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 10/MAY/78

TIME 720 DATE 2/23/78



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C-8 PIBAL SOUNDING                        RUN ON 10/MAY/78

SOUNDING DATE  2-23-78

BALLOON RELEASED 1345 CST

BASE LINE ANGLE              78.4
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)      -100.0

                THEODOLITE #1               THEODOLITE #2

   TIME      AZIMUTH  ELEVATION         AZIMUTH  ELEVATION     TEMP
    .0           .0        .0           258.5        .0          .0
    .5         15.6      41.6           261.4       3.1         7.4
   1.0         27.5      35.2           264.7       5.9         6.6
   1.5         33.8      38.6           267.6      10.0         6.1
   2.0         36.5      43.8           269.6      15.6         4.6
   2.5         37.8      46.8           271.9      20.7         3.6
   3.0         39.2      49.2           273.4      25.2         2.9
   3.5         44.5      50.1           274.0      30.0         2.0
   4.0         50.0      49.8           274.4      34.2         1.6
   4.5         55.2      49.3           275.2      40.1          .6
   5.0         60.0      48.0           275.5      46.1         -.3
   5.5         64.5      48.2           275.2      52.7        -1.4
   6.0         68.8      48.0           274.0      59.6        -2.1
   6.5         72.9      48.4           269.5      65.3        -2.0
   7.0         77.6      48.9           260.9      69.4        -1.6
   7.5         83.0      48.5           241.1      72.5        -2.1
   8.0         88.7      47.4           221.3      75.1        -2.5
   8.5         92.8      45.7           198.5      75.8        -3.0
   9.0         97.0      42.4           164.2      70.7        -3.2
   9.5         98.9      39.4           146.9      65.9        -3.7
  10.0         99.8      36.3           135.0      58.2        -3.9
  10.5        100.7      34.5           130.3      54.3        -4.2
  11.0        101.7      33.4           127.5      50.3        -5.0
  11.5        102.6      32.3           125.5      47.2        -5.0
  12.0        103.5      31.2           124.5      44.7        -5.5
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      60.1        5.0
     2      57.3        5.2
     3      79.8        5.4
     4      52.4        5.7
     5      57.6        6.1
     6      51.7        6.4
     7      36.7        6.7
     8      41.6        6.8
     9      39.5        7.1
    10      19.0        7.4
    11      34.7        7.8
    12      38.9        8.3
    13      18.1        8.7
    14      15.2        9.2
    15     118.6        9.7
```
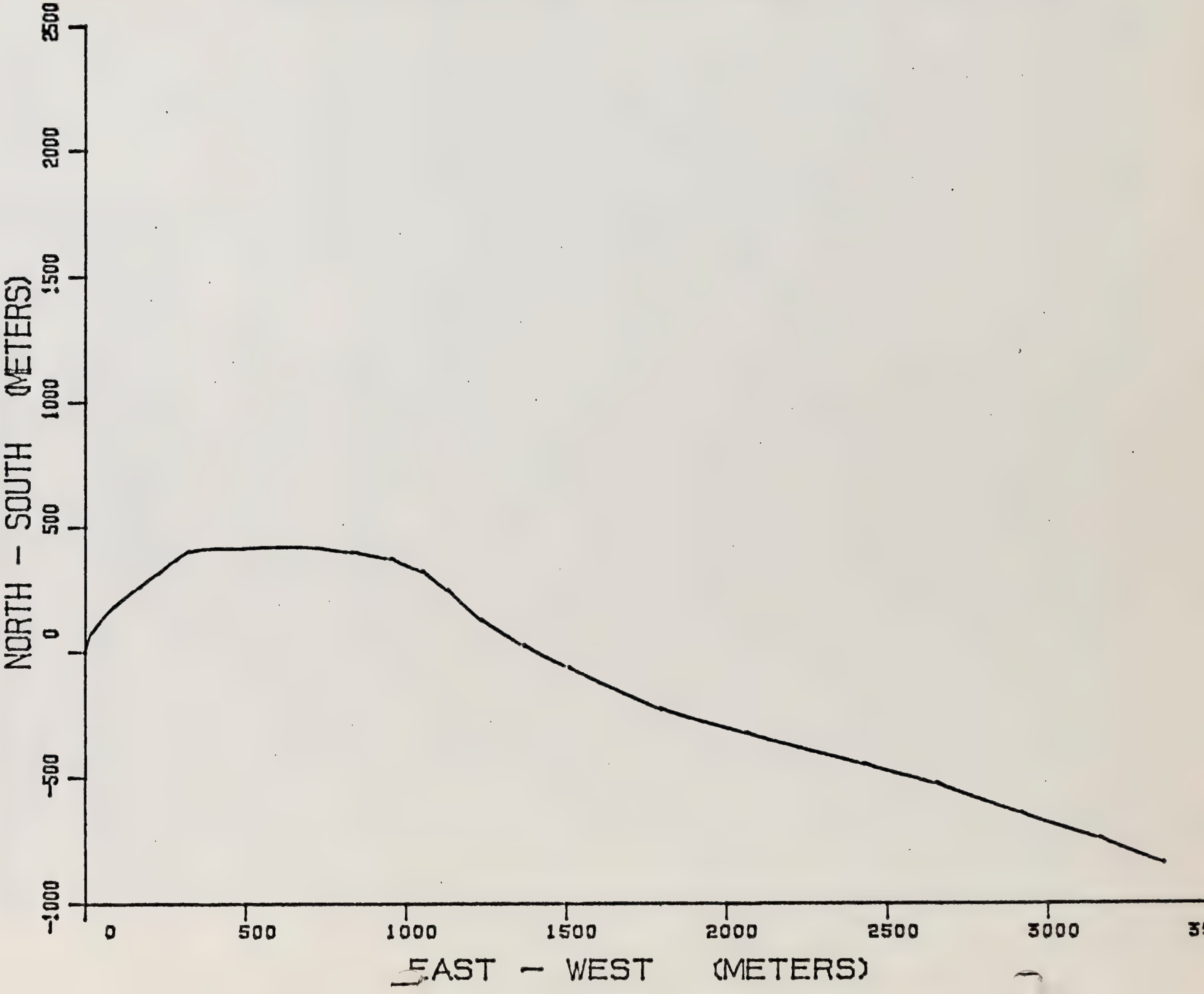

```
16      1.7      10.3
17     92.1      10.9
18     37.2      12.1
19      9.9      13.2
20    160.1      14.8
21    124.1      15.9
22    207.9      17.5
23    226.2      18.9
24    216.3      20.0

     HEIGHT  DIRECTION  SPEED  TEMP
      FEET    DEGREES   FT/SEC

      230.      207      11.1   7.4
      462.      219      12.8   6.6
      792.      225      10.5   6.1
     1211.      225       8.6   4.6
     1601.      226       7.1   3.6
     1946.      249       7.1   2.9
     2251.      265       9.0   2.0
     2475.      267      10.8   1.6
     2783.      269      12.7    .6
     3033.      275      12.7   -.3
     3381.      281      12.9  -1.4
     3727.      290      12.7  -2.1
     4066.      306      11.9  -2.0
     4356.      317      14.7  -1.6
     4597.      313      17.7  -2.1
     4881.      305      18.2  -2.5
     5101.      302      27.2  -3.0
     5402.      296      33.4  -3.2
     5625.      289      36.5  -3.7
     5872.      289      34.2  -3.9
     6044.      292      28.9  -4.2
     6364.      294      30.3  -5.0
     6630.      295      26.7  -5.0

     HEIGHT  DIRECTION  SPEED  TEMP
     METERS   DEGREES   M/SEC

       70.      207       3.4   7.4
      141.      219       3.9   6.6
      241.      225       3.2   6.1
      369.      225       2.6   4.6
      488.      226       2.2   3.6
      593.      249       2.2   2.9
      686.      265       2.7   2.0
      754.      267       3.3   1.6
      848.      269       3.9    .6
      925.      275       3.9   -.3
     1030.      281       3.9  -1.4
     1136.      290       3.9  -2.1
     1239.      306       3.6  -2.0
     1328.      317       4.5  -1.6
     1401.      313       5.4  -2.1
     1488.      305       5.5  -2.5
     1555.      302       8.3  -3.0
     1647.      296      10.2  -3.2
```

```
1715.      289      11.1  -3.7
1790.      289      10.4  -3.9
1842.      292       8.8  -4.2
1940.      294       9.2  -5.0
2021.      295       8.1  -5.0
```

C—B SOUNDING — PLOTTED ON 10/MAY/78

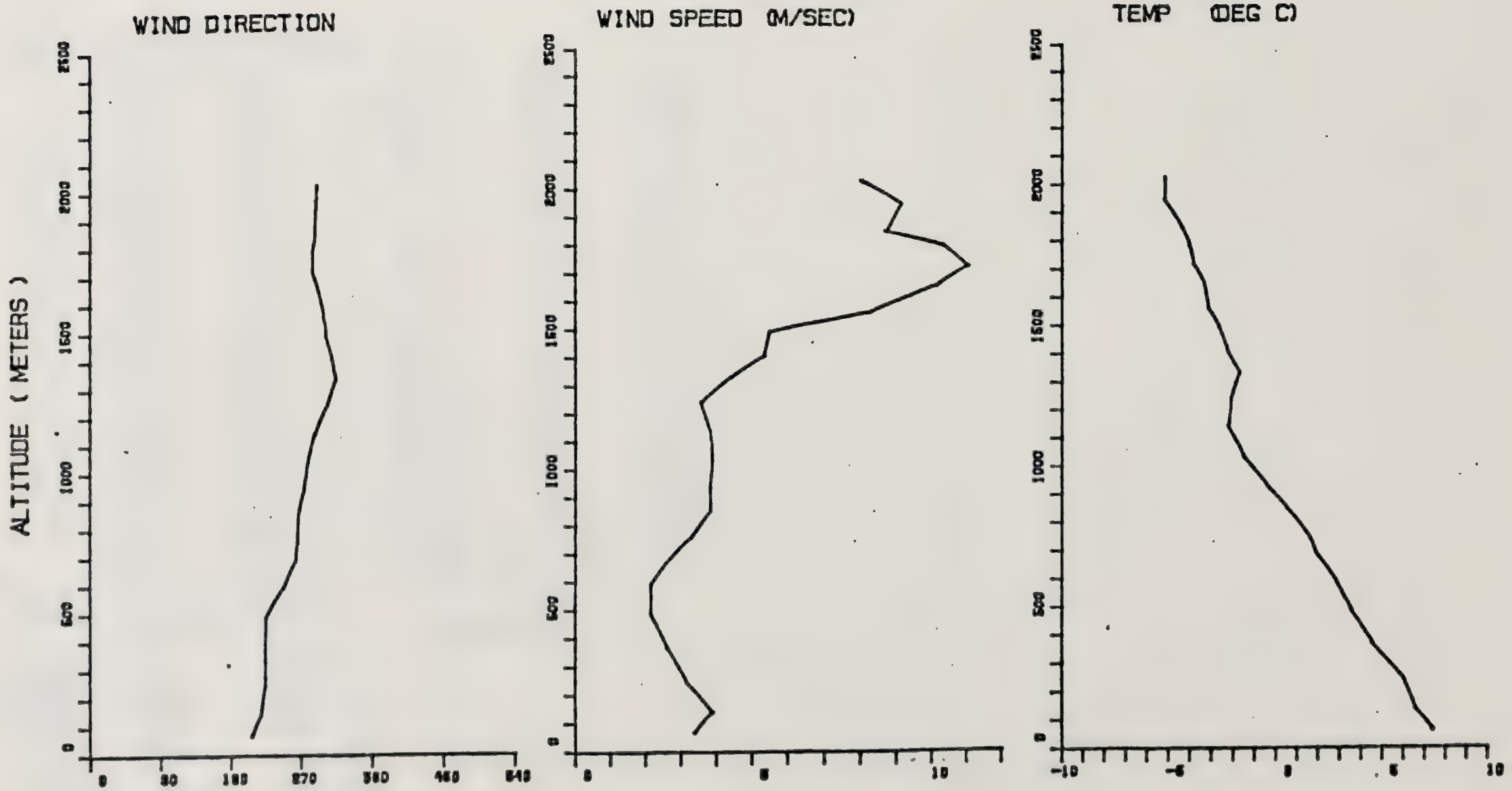
TIME 1345 DATE 2/23/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 10/MAY/78

TIME 1345 DATE 2/23/78



```
C-H PIBAL SOUNDING                        RUN ON 10/MAY/78

SOUNDING DATE  2-24-78

BALLOON RELEASED  715 CST


BASE LINE ANGLE              78.4
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)      -100.0

                THEODOLITE #1          THEODOLITE #2


   TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0           .0         .0          258.5         .0      .0
     .5        331.3       72.2          260.0        4.9    -3.0
    1.0         27.2       49.3          264.7        9.2    -1.9
    1.5         39.2       41.9          270.9       15.4    -2.3
    2.0         46.2       42.7          271.8       21.3    -2.8
    2.5         52.9       44.9          271.7       27.9    -3.1
    3.0         62.4       46.3          269.5       34.1    -4.0
    3.5         69.1       44.7          268.3       41.1    -4.7
    4.0         76.0       42.0          265.6       49.8    -5.2
    4.5         80.0       40.0          257.0       64.4    -5.6
    5.0         84.5       38.0          235.3       75.2    -6.1
    5.5         86.3       36.5          188.0       79.7    -6.5
    6.0         90.2       35.2          148.4       73.4    -6.9
    6.5         93.1       33.8          136.1       67.2    -8.1
    7.0         96.3       32.3          129.8       57.8    -8.8
    7.5         98.7       31.2          128.1       53.8    -9.7
    8.0        100.9       29.5          125.3       48.2    -9.9
    8.5        101.3       28.3          122.1       43.5    -9.6
    9.0        102.1       26.6          119.7       40.0    -9.7
    9.5        102.9       25.5          118.2       36.7    -10.
   10.0        103.6       24.6          117.4       34.2    -11.
   10.5        104.4       23.5          116.9       31.8    -12.
   11.0        105.3       22.9          116.9       30.0    -13.
   11.5        106.4       22.1          117.2       28.8    -13.
   12.0        107.5       21.2          117.4       27.8    -14.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO        ERROR

     1       33.3        5.2
     2       56.6        5.4
     3      136.5        5.7
     4       69.6        5.9
     5       39.9        6.2
     6       68.3        6.4
     7       98.5        6.6
     8      169.5        6.9
     9       64.1        7.6
    10      100.5        8.4
    11       34.4        9.3
    12        8.5       10.4
    13       62.9       11.5
    14       74.9       13.2
    15       12.9       14.3
```

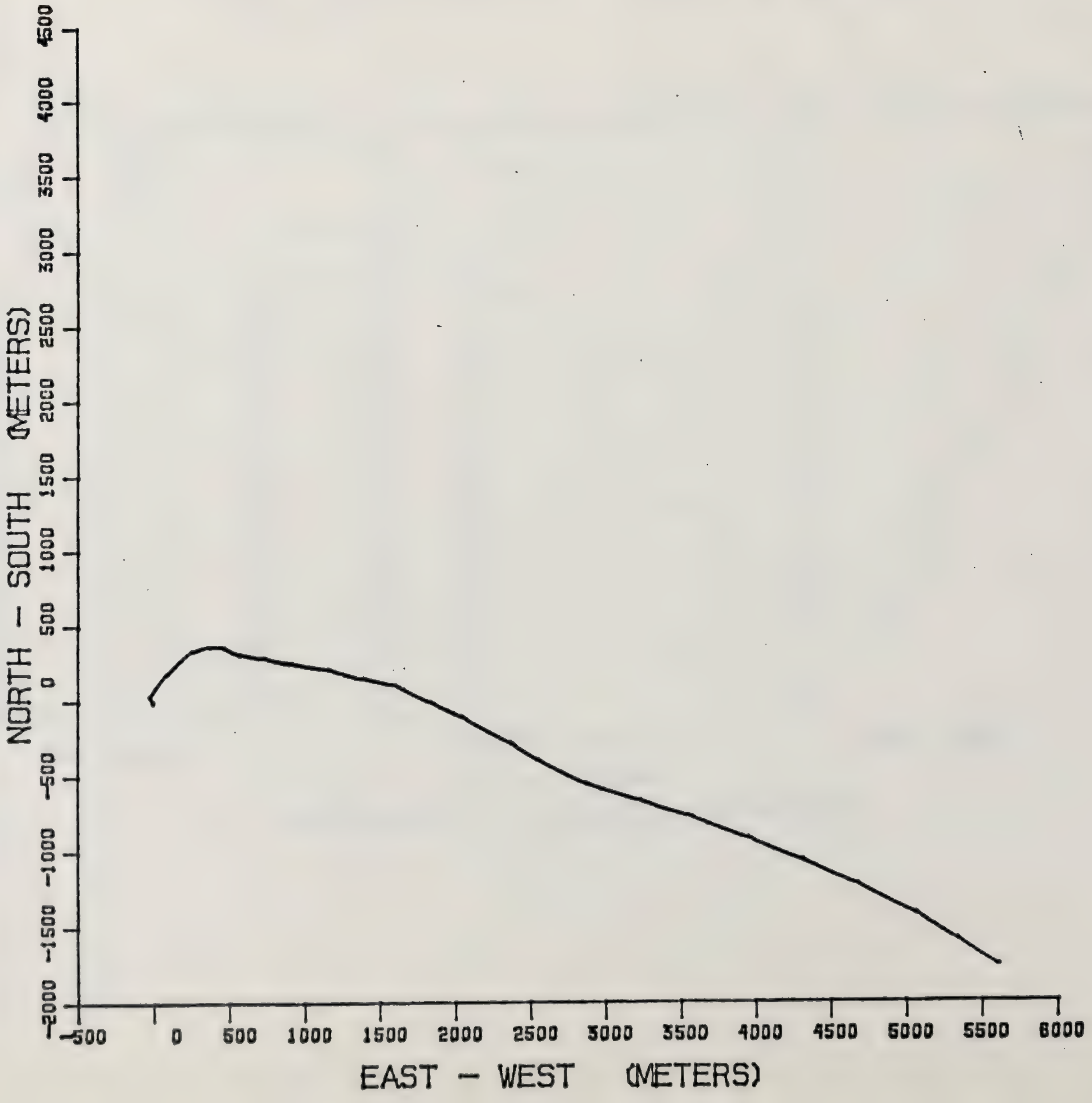
```
16      48.4      16.1
17      87.9      18.1
18      10.0      19.9
19      17.5      22.3
20      52.1      24.4
21      53.9      26.6
22     112.0      29.0
23       1.9      30.8
24     210.8      32.6

       HEIGHT   DIRECTION   SPEED   TEMP
        FEET     DEGREES    FT/SEC

         382.      206       11.0   -3.0
         752.      223       22.3   -1.9
        1203.      236       18.3   -2.3
        1545.      261       11.6   -2.8
        1932.      283       11.9   -3.1
        2253.      286       14.4   -4.0
        2521.      281       18.0   -4.7
        2763.      280       24.1   -5.2
        3248.      282       27.2   -5.6
        3599.      284       25.0   -6.1
        3910.      290       26.1   -6.5
        4267.      296       26.8   -6.9
        4520.      297       32.5   -8.1
        4924.      300       32.0   -8.8
        5141.      299       31.1   -9.7
        5445.      292       39.5   -9.9
        5775.      288       39.0   -9.6
        5970.      290       42.1   -9.7
        6339.      291       44.5  -10.1
        6642.      293       43.3  -11.1
        6876.      295       45.4  -11.8
        7227.      299       41.2  -12.6
        7423.      303       35.6  -13.3

       HEIGHT   DIRECTION   SPEED   TEMP
       METERS    DEGREES    M/SEC

         116.      206        3.4   -3.0
         229.      223        6.8   -1.9
         367.      236        5.6   -2.3
         471.      261        3.5   -2.8
         589.      283        3.6   -3.1
         687.      286        4.4   -4.0
         768.      281        5.5   -4.7
         842.      280        7.3   -5.2
         990.      282        8.3   -5.6
        1097.      284        7.6   -6.1
        1192.      290        8.0   -6.5
        1301.      296        8.2   -6.9
        1378.      297        9.9   -8.1
        1501.      300        9.8   -8.8
        1567.      299        9.5   -9.7
        1660.      292       12.0   -9.9
        1760.      288       11.9   -9.6
        1820.      290       12.8   -9.7
```

```
1932.     291      13.6 -10.1
2024.     293      13.2 -11.1
2096.     295      13.8 -11.8
2203.     299      12.6 -12.6
2262.     303      10.9 -13.3
```

C-B SOUNDING - PLOTTED ON 10/MAY/78

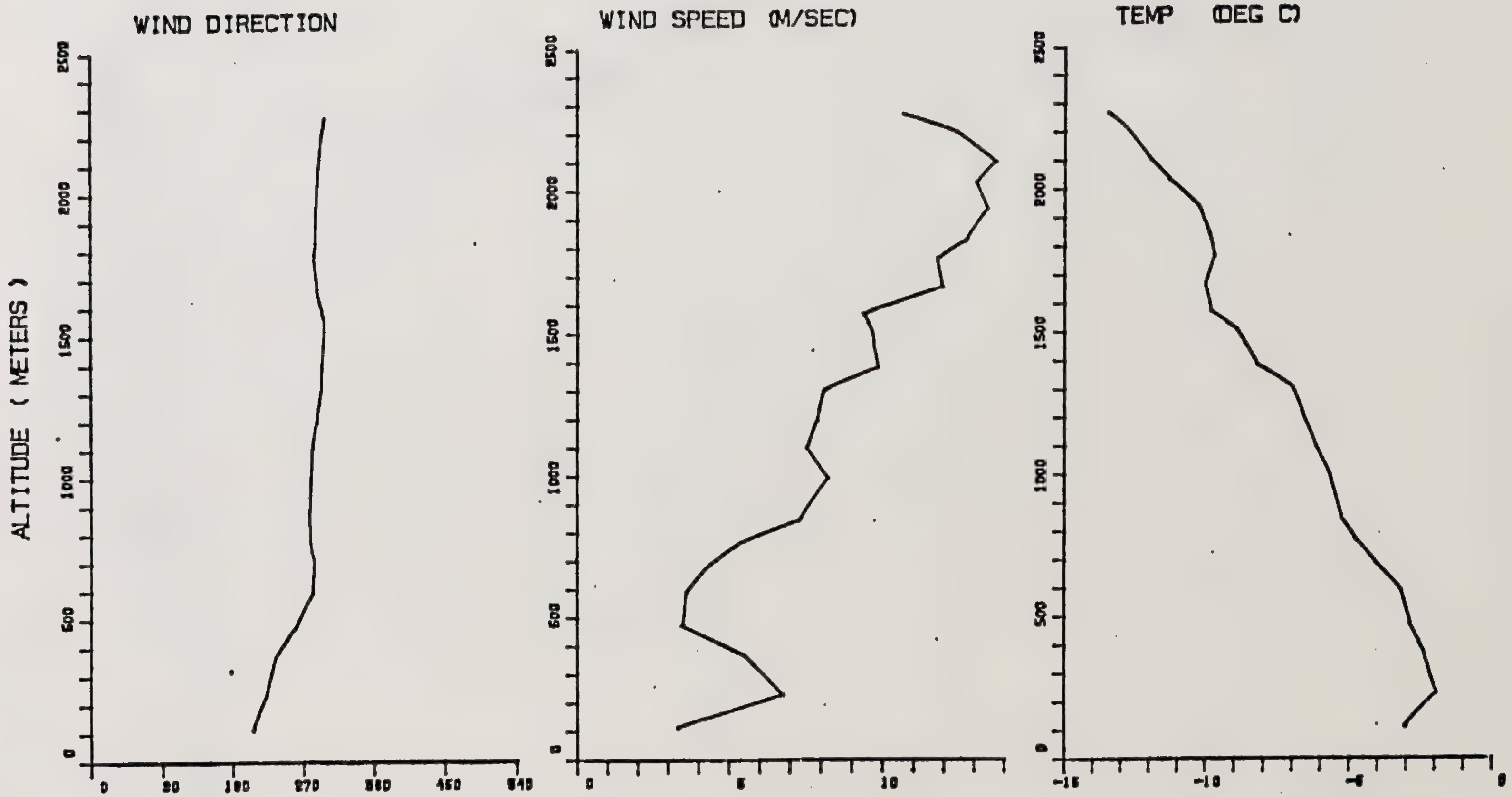
TIME 715 DATE 2/24/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 10/MAY/78

TIME 715 DATE 2/24/78



```
C-B PIBAL SOUNDING                    RUN ON 10/MAY/78

SOUNDING DATE  2-24-78

BALLOON RELEASED 1415 CST

BASE LINE ANGLE              78.4
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)      -100.0

                THEODOLITE #1            THEODOLITE #2

    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0           .0        .0           258.5        .0        .0
     .5         59.1      22.2           260.9       3.8       8.1
    1.0         56.6      34.2           263.8       8.7       6.7
    1.5         52.0      37.7           268.4      15.0       5.3
    2.0         48.5      38.9           273.9      22.6       3.8
    2.5         46.9      40.6           277.8      28.1       2.7
    3.0         47.6      42.4           281.1      34.1       1.6
    3.5         49.5      44.2           282.4      39.2        .2
    4.0         54.2      45.5           283.2      45.3       -.8
    4.5         61.8      46.5           280.5      53.1      -1.4
    5.0         71.0      46.6           273.2      62.8      -2.6
    5.5         78.9      45.9           259.2      72.2      -4.3
    6.0         84.5      45.0           231.1      78.5      -5.0
    6.5         89.0      43.0           178.1      79.6      -6.2
    7.0         91.1      40.0           138.5      72.6      -5.8
    7.5         93.7      36.2           124.7      63.6      -5.9
    8.0         96.1      33.2           120.0      54.5      -5.9
    8.5         98.8      30.6           119.2      47.0      -5.3
    9.0        101.3      28.3           119.3      41.7      -6.0
    9.5        103.3      26.6           119.7      38.9      -6.4
   10.0        104.9      25.1           120.0      34.7      -6.5
   10.5        106.0      23.6           119.5      31.4      -6.9
   11.0        106.9      22.3           119.1      29.3      -7.7
   11.5        107.1      21.4           118.2      27.5      -7.6
   12.0        107.0      20.6           117.0      26.0      -7.8
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      20.3        4.9
     2      86.2        5.1
     3     117.7        5.4
     4      82.1        5.9
     5      69.3        6.3
     6      64.1        6.8
     7      44.5        7.1
     8      68.0        7.5
     9      59.5        7.8
    10      43.9        8.3
    11      50.2        9.1
    12      45.8       10.0
    13      58.6       11.0
    14      81.7       12.5
    15      29.5       13.9
```

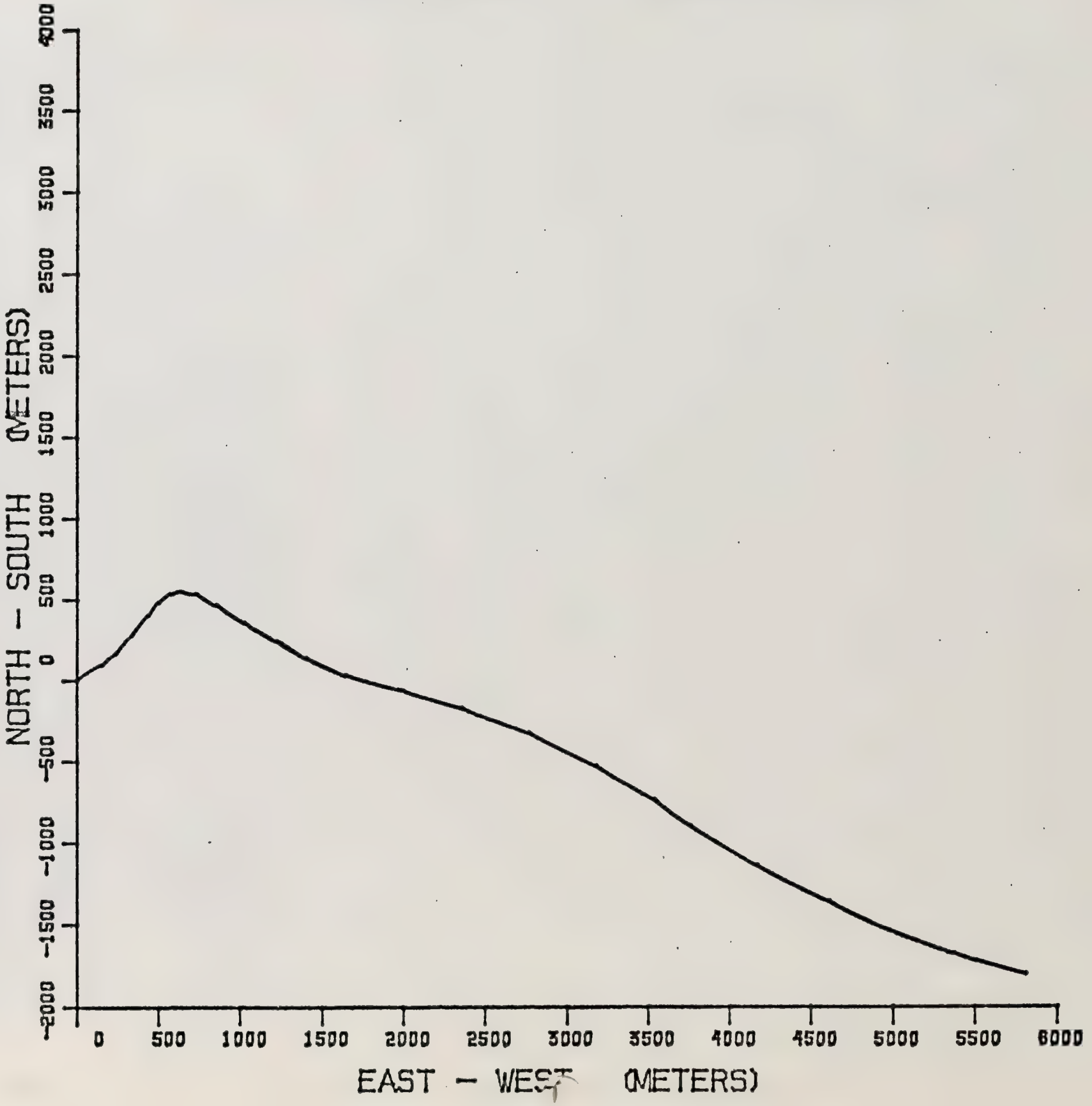
```
16      95.5      16.0
17     162.2      18.1
18     125.6      20.1
19      45.3      21.4
20     102.8      23.8
21     153.7      26.5
22      72.5      28.6
23     100.0      31.0
24     107.6      33.5

       HEIGHT   DIRECTION   SPEED   TEMP
        FEET     DEGREES   FT/SEC

         238.      235       16.0    8.1
         639.      225       14.3    6.7
        1084.      220       17.1    5.3
        1560.      218       14.2    3.8
        1926.      224       10.1    2.7
        2322.      242        8.1    1.6
        2655.      268        8.5     .2
        3000.      290       13.0    -.8
        3365.      301       19.0   -1.4
        3779.      302       23.2   -2.6
        4218.      301       23.8   -4.3
        4644.      297       25.9   -5.0
        5047.      289       33.2   -6.2
        5437.      286       39.8   -5.8
        5640.      289       45.2   -5.9
        5942.      294       49.6   -5.9
        6184.      299       47.9   -5.3
        6325.      303       37.6   -6.0
        6369.      303       40.7   -6.4
        6586.      299       52.7   -6.5
        6806.      297       48.9   -6.9
        6959.      294       45.2   -7.7
        7179.      288       48.3   -7.6

       HEIGHT   DIRECTION   SPEED   TEMP
       METERS    DEGREES    M/SEC

          73.      235        4.9    8.1
         195.      225        4.4    6.7
         330.      220        5.2    5.3
         476.      218        4.3    3.8
         587.      224        3.1    2.7
         708.      242        2.5    1.6
         809.      268        2.6     .2
         914.      290        4.0    -.8
        1026.      301        5.8   -1.4
        1152.      302        7.1   -2.6
        1285.      301        7.3   -4.3
        1415.      297        7.9   -5.0
        1538.      289       10.1   -6.2
        1657.      286       12.1   -5.8
        1719.      289       13.8   -5.9
        1811.      294       15.1   -5.9
        1885.      299       14.6   -5.3
        1928.      303       11.5   -6.0
```

```
1941.     303      12.4  -6.4
2007.     299      16.1  -6.5
2074.     297      14.9  -6.9
2121.     294      13.8  -7.7
2188.     288      14.7  -7.6
```

C-B SOUNDING – PLOTTED ON 10/MAY/78

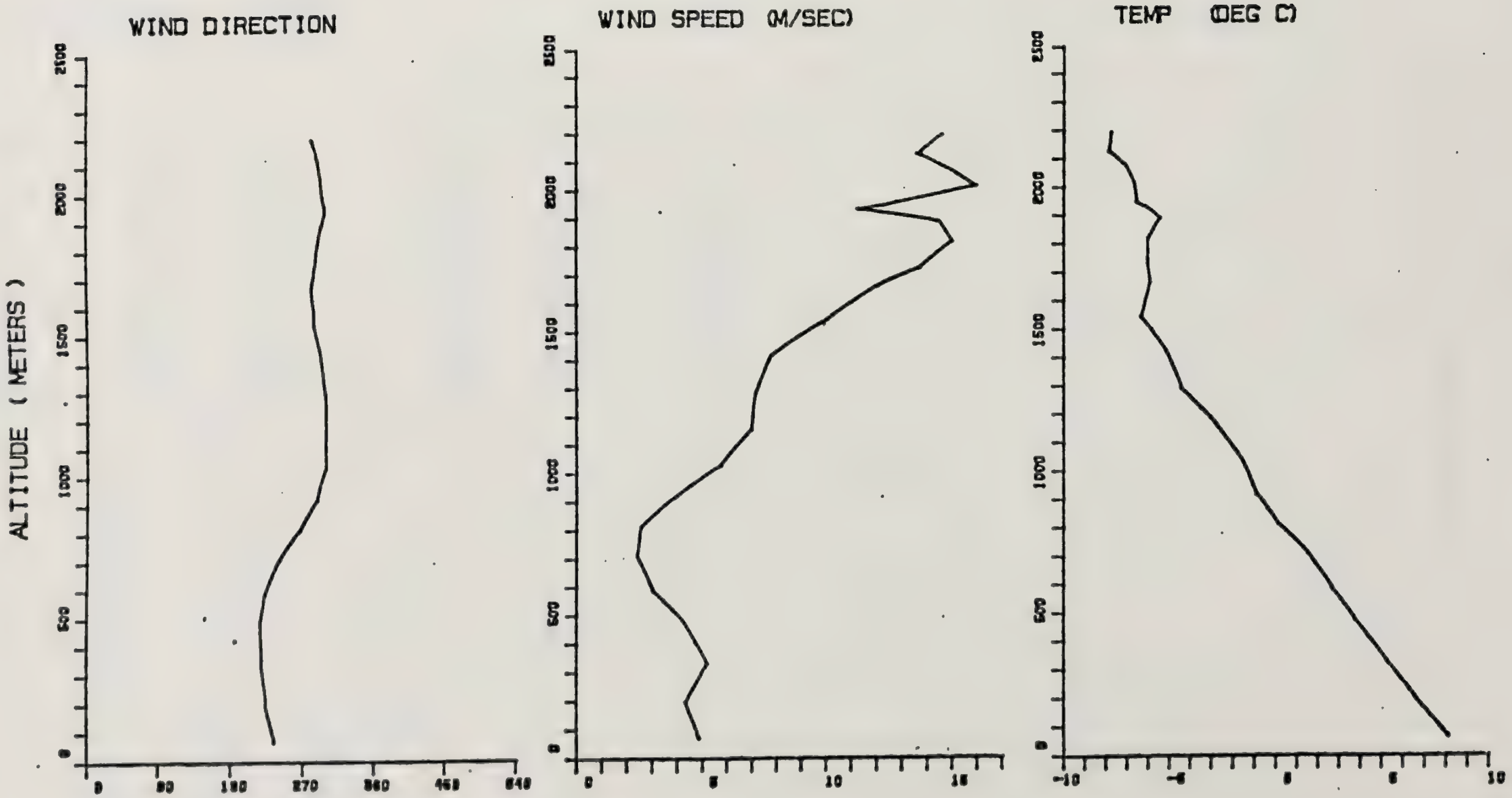
TIME 1415 DATE 2/24/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 10/MAY/78

TIME 1415 DATE 2/24/78



C-b Sounding

Time: 0715 Date: 2-27-78

No data taken. Poor visibility.

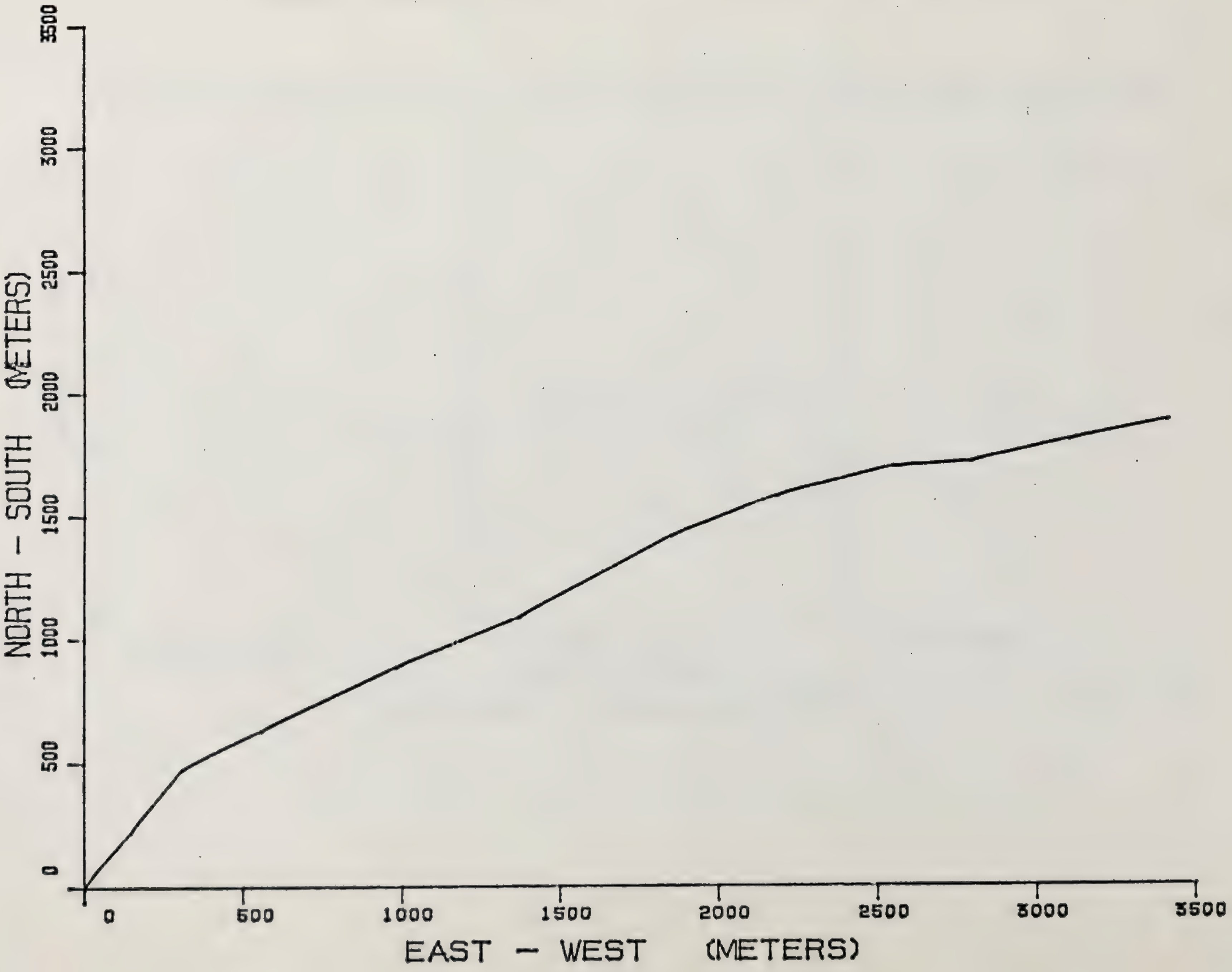
```
C-8 PIBAL SOUNDING                    RUN ON 11/MAY/78

SOUNDING DATE  2-27-78

BALLOON RELEASED 1320 CST

BASE LINE ANGLE             78.4
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)     -100.0

            THEODOLITE #1          THEODOLITE #2

   TIME      AZIMUTH  ELEVATION     AZIMUTH  ELEVATION   TEMP
    .0           .0        .0       258.5        .0       .0
    .5         34.2      26.2       265.6       5.9       .6
   1.0         33.2      26.2       276.1      12.7       .2
   1.5         42.1      27.8       285.6      22.1      -.3
   2.0         46.2      22.9       310.1      34.3     -1.1
   2.5         51.7      20.0       340.6      40.1     -1.8
   3.0         52.5      19.1        11.6      38.1     -2.2
   3.5         53.9      18.6        24.0      35.7     -2.7
   4.0         55.9      18.9        34.7      34.9     -3.2
   4.5         58.0      18.8        40.8      33.8     -3.9
   5.0         59.6      18.5        45.6      31.5     -5.2
   5.5         60.9      18.3        49.6      30.0     -6.1
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO       ERROR

    1      19.4        5.1
    2      27.2        5.7
    3      74.3        6.2
    4      23.9        7.1
    5       5.2        8.3
    6      80.4       11.0
    7     126.4       12.9
    8     245.9       15.0
    9     242.0       16.1
   10     171.7       17.8
   11     183.3       19.5

       HEIGHT  DIRECTION  SPEED  TEMP
        FEET    DEGREES   FT/SEC

        419.      213      30.9    .6
        902.      225      31.6    .2
       1421.      238      43.1   -.3
       1817.      240      50.9  -1.1
       2089.      236      55.7  -1.8
       2689.      238      51.5  -2.2
       3029.      248      41.2  -2.7
       3553.      257      34.6  -3.2
       3765.      259      30.8  -3.9
       4012.      255      35.1  -5.2
```

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
128.	213	9.4	.6
275.	225	9.7	.2
433.	238	13.1	-.3
554.	240	15.5	-1.1
637.	238	17.0	-1.8
819.	238	15.7	-2.2
923.	248	12.6	-2.7
1083.	257	10.5	-3.2
1148.	259	9.4	-3.9
1223.	255	10.7	-5.2

C—B SOUNDING — PLOTTED ON 11/MAY/78

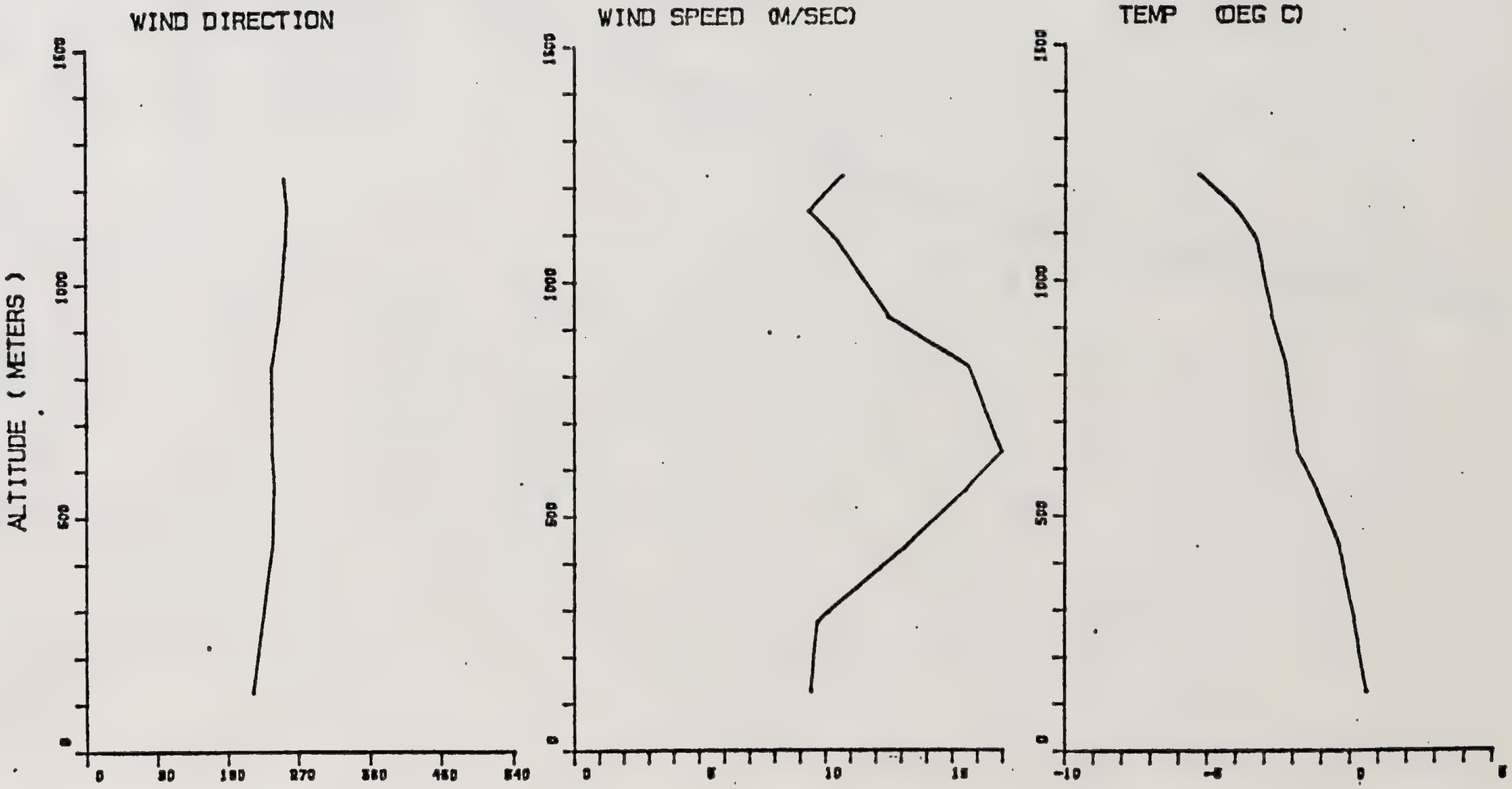
TIME 1320 DATE 2/27/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 11/MAY/78

TIME 1520 DATE 2/27/78



SECTION 3.0

AIR QUALITY

HYDROGEN SULFIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 16/MAY/78   *
*                    *
**********************
```

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
2	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
3	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	4	4	4	4	4	3	3	0	0	0	3	4
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	0	0
20	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[ ]
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	1	[ ]

AQOUT [04 MAY 78]

SULFUR DIOXIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 16/MAY/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
3	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(CA)	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	(CA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	0	0
20	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	8	13	13	10	10	10	10	10	10	10	10	8	8	8	10	13
21	10	10	10	10	10	8	8	10	8	8	8	8	8	8	8	8	10	8	8	8	8	10	10	10	9	10
22	10	6	8	8	8	8	8	8	8	8	8	8	10	8	8	5	8	8	10	10	10	13	13	10	9	13
23	10	10	13	13	13	10	10	13	10	10	10	10	10	10	10	10	8	8	10	10	10	10	10	10	10	13
24	10	10	10	10	10	10	8	10	10	10	10	5	8	8	5	0	0	5	8	8	8	8	8	8	8	10
25	8	10	10	8	8	10	10	10	10	10	8	8	8	8	8	8	8	8	8	8	8	5	5	8	8	10
26	5	5	5	5	3	5	5	8	5	8	5	5	3	0	0	0	0	0	0	0	0	0	0	0	3	8
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
30	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	( )
SD	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	3	4	4	4	4	4	4	4	( )

AQOUT (04 MAY 78)

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TOTAL HYDROCARBONS

MICROGRAMS/CUBIC METER
                                                    C-B OIL SHALE PROJECT, COLORADO     **********************
                                                                                        *                    *
                                                    SITE   23                           *     FINAL DATA     *
                                                                                        *  AS OF 15/MAY/78   *
                                                    FEB, 1978                           *                    *
                                                                                        **********************
                                                    AEROVIRONMENT INC.


                                   CLOCK HOUR  [LOCAL STANDARD TIME]

DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23    AVE PEAK

  1  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  2  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  3  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  4  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  5  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  6  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  7  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  8  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  9  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 10  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 11  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 12  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 13  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 14  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 15  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 16  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 17  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 18  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 19  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 20  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 21  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 22  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 23  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 24  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 25  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 26  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 27  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 28  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 29  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ] [  ]
 30  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ] [  ]
 31  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ] [  ]

 AV  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ] [  ]
 SD  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  [  ] [  ]

ADOUT    [04 MAY 78]
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METHANE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 15/MAY/78   *
*                    *
**********************
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CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
2	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
3	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
4	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
5	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
6	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
7	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
8	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
9	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
10	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
11	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
12	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
13	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
14	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
15	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
16	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
17	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
18	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
19	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
20	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
21	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
22	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
23	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
24	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
25	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
26	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
27	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
28	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
SD	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

ADOUT [04 MAY 78]

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HYDROCARBONS (CORRECTED FOR CH4)

MICROGRAMS/CUBIC METER

                                                   C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                        *                    *
                                                   SITE   23                            *     FINAL DATA     *
                                                                                        *  AS OF 15/MAY/78   *
                                                   FEB, 1978                            *                    *
                                                                                        **********************
                                                   AEROVIRONMENT INC.


                                    CLOCK HOUR  (LOCAL STANDARD TIME)

DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23    AVE PEAK

 1  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
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15  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
16  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
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18  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
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28  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
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ADOUT    [04 MAY 78]
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        CARBON MONOXIDE

        MILLIGRAMS PER CUBIC METER
                                                                  C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                                        *                    *
                                                                  SITE  23                              *     FINAL DATA     *
                                                                                                        *  AS OF 15/MAY/78   *
                                                                  FEB, 1978                             *                    *
                                                                                                        **********************
                                                                  AEROVIRONMENT INC.


                                          CLOCK HOUR  (LOCAL STANDARD TIME)

DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23    AVE PEAK

  1  (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM) (IM)  (  ) (  )
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ADOUT     (04 MAY 78)
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OXIDES OF NITROGEN

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 16/MAY/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
2	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
3	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[CA]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
4	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
5	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
6	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
7	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
8	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
9	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
10	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
11	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
12	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
13	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
14	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
15	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
16	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
17	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
18	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
19	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
20	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
21	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
22	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
23	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
24	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
25	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
26	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
27	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
28	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
SD	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

ADOUT [04 MAY 78]

NITRIC OXIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 16/MAY/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
2	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
3	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[CA]	2	2	1	1	0	0	0	0	0	1	2
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	1	[CA]	[CA]	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	0	0
20	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[ ]
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[ ]

AQOUT (04 MAY 78)

NITROGEN DIOXIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 16/MAY/78   *
*                    *
**********************
```

CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
2	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
3	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[CA]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
4	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
5	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
6	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
7	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
8	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
9	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
10	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
11	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
12	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
13	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
14	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
15	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
16	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
17	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
18	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
19	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
20	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
21	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
22	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
23	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
24	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
25	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
26	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
27	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
28	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
SD	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

AOOUT [04 MAY 78]

OZONE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*  AS OF 16/MAY/78   *
*                    *
**********************
```

CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
2	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
3	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	96	94	90	92	90	88	86	86	86	84	89	96
4	84	84	82	80	78	76	76	78	74	80	82	84	84	86	86	86	86	78	78	78	82	82	82	78	81	86
5	78	82	84	84	84	80	82	80	80	80	82	82	82	82	82	80	86	80	78	76	76	78	80	80	81	86
6	80	76	74	74	73	71	69	69	69	71	73	74	76	76	78	78	76	74	71	63	57	57	55	47	70	80
7	47	47	49	51	53	49	43	35	45	59	69	78	78	82	82	78	80	78	76	74	73	73	73	69	64	82
8	69	67	67	69	71	74	67	74	78	84	88	92	90	90	90	88	90	94	90	88	88	84	78	84	81	94
9	84	88	88	88	86	86	86	86	86	86	90	96	96	98	96	92	90	86	88	86	82	78	74	74	87	98
10	73	67	65	63	61	59	59	59	57	57	[CA]	86	92	102	102	102	100	100	98	96	96	98	96	94	82	102
11	94	94	88	88	90	102	104	98	96	96	96	98	106	110	122	123	118	116	114	108	104	106	108	110	104	123
12	106	102	108	106	106	108	108	106	100	106	112	110	108	110	110	110	114	114	106	102	104	104	100	104	107	114
13	104	100	100	102	100	96	96	98	98	108	122	125	123	123	125	125	125	125	123	122	122	118	120	116	113	125
14	112	110	114	114	106	108	88	88	94	[CA]	106	125	106	102	110	114	118	116	106	104	106	106	106	104	107	125
15	96	102	98	98	102	102	100	100	94	98	104	108	114	114	116	116	116	114	114	106	106	102	94	92	104	116
16	90	94	94	86	94	100	96	96	92	90	98	104	108	110	110	110	108	106	108	104	98	98	94	90	99	110
17	94	96	94	96	96	96	94	96	92	96	104	123	106	106	104	106	108	108	98	94	94	94	94	96	99	123
18	98	96	96	96	96	98	96	96	98	110	110	110	114	114	116	116	118	116	110	108	108	106	110	110	106	118
19	114	110	108	106	104	100	98	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	106	114
20	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	102	104	106	110	110	110	104	104	104	100	96	92	88	84	101	110
21	80	84	84	86	88	84	86	86	86	86	86	94	96	98	98	100	100	96	94	92	92	94	94	96	91	100
22	94	94	96	94	92	92	90	92	86	88	96	100	100	110	102	98	96	98	95	94	98	100	100	100	96	110
23	98	96	98	98	98	98	98	96	96	96	100	108	114	114	116	116	116	114	112	108	104	102	100	98	104	116
24	96	96	96	96	94	94	96	94	94	96	[CA]	106	104	106	106	106	106	104	104	100	100	100	96	96	99	106
25	96	96	98	96	98	100	96	96	96	98	98	100	102	102	104	104	102	100	100	98	98	98	100	104	99	104
26	104	102	96	98	104	106	106	106	112	114	118	122	125	125	131	129	127	125	125	123	122	116	114	112	115	131
27	106	104	104	102	102	96	96	88	84	96	98	98	10	10	102	106	106	104	104	100	98	104	104	106	93	106
28	104	106	98	96	94	98	96	94	94	96	114	120	123	123	122	122	122	118	114	112	112	112	108	104	108	123
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	92	91	91	90	90	91	89	87	87	90	98	102	98	100	105	104	104	102	100	97	96	96	94	93	96	[ ]
SD	15	15	15	14	14	15	15	16	14	14	14	14	23	23	14	14	14	15	14	14	14	14	14	15	13	[ ]

AOOUT [04 MAY 78]

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PARTICULATES (24 HR. AVG)
MICROGRAMS/CUBIC METER
                                                C-B OIL SHALE PROJECT, COLORADO       **********************
                                                                                      *                    *
                                                                                      *     FINAL DATA     *
                                                FEB, 1978                             *  AS OF 21/AUG/78   *
                                                                                      *                    *
                                                AEROVIRONMENT INC.                    **********************


                                              SITE


                                       DAY    23    20    42    56   PEAK

                                         1  [RF]  [IM]  16.8  [RF]   16.8
                                         2  [  ]  [  ]  [  ]  [  ]   [  ]
                                         3  [  ]  [  ]  [  ]  [  ]   [  ]
                                         4   7.1  [IM]  11.5    .1   11.5
                                         5  [  ]  [  ]  [  ]  [  ]   [  ]
                                         6  [  ]  [  ]  [  ]  [  ]   [  ]
                                         7   5.2  [IM]   2.0   1.2    5.2
                                         8  [  ]  [  ]  [  ]  [  ]   [  ]
                                         9  [  ]  [  ]  [  ]  [  ]   [  ]
                                        10    .6   5.8  [OE]   2.0    5.8
                                        11  [  ]  [  ]  [  ]  [  ]   [  ]
                                        12  [  ]  [  ]  [  ]  [  ]   [  ]
                                        13   2.4   6.4   4.0   3.5    6.4
                                        14  [  ]  [  ]  [  ]  [  ]   [  ]
                                        15  [  ]  [  ]  [  ]  [  ]   [  ]
                                        16  14.0   6.4   9.5   6.8   14.0
                                        17  [  ]  [  ]  [  ]  [  ]   [  ]
                                        18  [  ]  [  ]  [  ]  [  ]   [  ]
                                        19   5.1   1.1   1.7   2.7    5.1
                                        20  [  ]  [  ]  [  ]  [  ]   [  ]
                                        21  [  ]  [  ]  [  ]  [  ]   [  ]
                                        22   4.7   6.2    .9   2.8    6.2
                                        23  [  ]  [  ]  [  ]  [  ]   [  ]
                                        24  [  ]  [  ]  [  ]  [  ]   [  ]
                                        25  [RF]   2.1   7.1   2.9    7.1
                                        26  [  ]  [  ]  [  ]  [  ]   [  ]
                                        27  [  ]  [  ]  [  ]  [  ]   [  ]
                                        28   3.5   4.0  [RF]   4.8    4.8
                                        29  [  ]  [  ]  [  ]  [  ]   [  ]
                                        30  [  ]  [  ]  [  ]  [  ]   [  ]
                                        31  [  ]  [  ]  [  ]  [  ]   [  ]

                                        AV   5.3   4.6   6.7   3.0   [  ]
                                        GM   4.0   3.9   4.5   2.0   [  ]
                                        PK  14.0   6.4  16.8   6.8   [  ]
AQOUT .  [15 MAY 78]
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DATA REPORT

Final Submission

AIR QUALITY DATA

PROTOTYPE OIL SHALE LEASE TRACT C-b

Volume II

February 1978 Data

Submitted 6 June 1978

to

C-b Shale Oil Venture
Grand Junction, Colorado 81501

By

AeroVironment Inc.
145 Vista Avenue
Pasadena, California 91107

PREFACE

This volume is the final submission of data acquired during the air quality/meteorology portions of the monitoring program for oil shale tract C-b. The period covered runs from 1 February through 28 February 1978.

This report is divided into two volumes. Volume I contains all of the basic data (hourly averages). Volume II contains all of the computer analysis reports.

TABLE OF CONTENTS

Section 1.0 - General

1.1 Introduction

1.2 Description of Reports
  1.2.1 Description of Reports
  1.2.2 Stability Class from ΔT Reports
  1.2.3 Wind Speed and Direction by Stability Class Report
  1.2.4 Five Maximum Independent Sliding Averages Report
  1.2.5 Monthly and Daily Averages
  1.2.6 Monthly and Daily Vectorial Wind Averages

1.3 Data Description
  1.3.1 Description of Data Symbols
  1.3.2 Data Acceptance Algorithm
  1.3.3 Data Precision and Lower Detection Limit
  1.3.4 AV Nomenclature for Components

Section 2.0 - Reports

2.1 Downtime hours by monthly % efficiency by parameter by site

2.2 Hourly table of stability class determined by ΔT

2.3 Wind speed and wind direction by stability class

2.4 Five maximum independent sliding averages

2.5 Monthly and daily averages

2.6 Monthly and daily vectorial wind averages

SECTION 1.0

GENERAL

1.0 GENERAL

1.1 Introduction

AeroVironment Inc. is performing an air quality and meteorological measurement program on the C-b shale oil tract for C-b Shale Oil Venture. Various parameters of air quality and meteorological data are collected at a network of sites. A listing of data collected during this month is contained in Section 1.3 of Volume I.

1.2 Description of Reports

1.2.1 Downtime Hours Report

This report calculates the numbers of hours of downtime by component and by site for each day. Downtime hours are:

MT (Maintenance)
FO (Flame Out)
IM (Instrument Malfunction)
PF (Power Failure)
RF (Recording Failure)
SE (Special Experiment)

Uptime hours are:

Numerical data values
CA (Calibration)
LI (Local Interference)
OS (Off Scale)
IN (Interference)
VA (Variable)
NV (Not Visible)

See section 1.3.1 for additional description of the letter codes. Hours before an instrument began operation are ignored. Percentage efficiency is the number of hours of uptime divided by total hours of data expected.

1.2.2 Stability Class from ΔT Report

Hourly values of stability class have been defined by using the Pasquill-Gifford stability classes. (Classes A – G) with Class A being the most unstable and Class G the most stable. They are determined from ΔT and corrected for wind speed according to the following formulas:

Class	ΔT (°C/100m)
A	< -1.9
B	- 1.9 to - 1.7
C	- 1.7 to - 1.5
D	- 1.5 to - 0.5
E	- 0.5 to 1.5
F	1.5 to 4.0
G	> 4.0

Wind Speed Adjustment

Stability From ΔT	Wind Speed (WS) m/s	"Adjusted Stability"
A	WS< 2.00	A
	2.00≤WS<5.00	B
	5.00≤WS≤6.00	C
	WS> 6.00	D
B	WS<5.00	B
	5.00≤WS≤6.00	C
	WS> 6.00	D
C	WS≤ 6.00	C
	WS>6.00	D
D	ALL SPEEDS	D
E	WS≤ 5.00	E
	WS> 5.00	D

Stability From ΔT	Wind Speed (WS) m/s	"Adjusted Stability"
F	WS< 3.00	F
	3.00≤WS≤ 5.00	E
	WS> 5.00	D

Letter codes are used when the stability class cannot be determined (as when there is no ΔT data). If the wind speed data does not exist, the stability class will still be determined, but it will not be corrected for wind speed. These hours can be determined by looking for the malfunction codes in the next report, "Wind Speed and Direction by Stability Class".

1.2.3 Wind Speed and Direction by Stability Class Report

The hourly wind speed and direction (unit vector averaged) is determined for each hour of stability class data. A separate report is produced for each stability class, so wind speed and direction will only be printed in the hours where that particular stability class exists. If wind speed data does not exist, a malfunction code (see Section 1.3.1) will be printed in its place. The stability class will still be determined on the stability class report, however it will not be corrected for wind speed. If wind direction data does not exist, malfunction codes are printed in their place. Since a separate report is prepared for each stability class, blanks between brackets indicate that the hour in question is not the stability class of that report.

1.2.4 Five Maximum Independent Sliding Averages Report

The five highest sliding averages in a month are determined for each of the various air quality parameters for the periods for which there is a standard:

Component	Averaging Time
Ozone	1 hour
Carbon Monoxide	1 hour, 8 hours
Sulfur Dioxide	3 hours, 24 hours
Particulates	24 hours
Hydrocarbon (corrected for methane)	3 hours (6-9 am only)

The average is a "sliding average" for all averaging periods greater than 1 hour. Thus the first 8 hour average checked would be hours 00 through 07, the second one checked would be 01 through 08, and so forth. After the highest average has been determined, none of those values (8 in the case of an 8 hour average) would be used to determine the second highest average. Thus, a single high hourly average will only effect a single independent sliding average, no matter what the averaging period is.

The minimum sample size for determining these averages is:

Time Interval	Minimum number of observations
3-hour running average	3 consecutive hourly observations
8-hour running average	6 hourly observations
24-hour	18 hourly observations
Monthly	21 daily averages
Quarterly	3 consecutive monthly averages
Yearly	9 monthly averages with at least two monthly averages per quarter.

(From the EPA Quality Assurance Handbook).

1.3 Data Description

1.3.1 Description of Data Symbols

Symbols used on the data sheets are:

CA	Calibration
MT	Maintenance (changing paper, tape, filters)
FO	Flame out (on the gas chromatographs)
IM	Instrument malfunction
PF	Power failure (generator failure, power outages)
RF	Recording system failure (chart jams, runs out, tape cassette fails, on-site computer goes down)
LI	Local interference (Car nearby, contamination by generator)
OS	Off scale (data not visible, within range of instrument/recorder; data presumed monitored)
SE	Special experiment (instrument off-line for bag sample analysis or removed for special measurements in area)
VA	Variable wind direction
IN	Interference (CO_2 interference on sulfur data, SO_2 interference in oxidant readings)
NV	Not visible

See the attached example sheets.

1.3.2 Data Acceptance Algorithm

The EA chart recorder logs data once every 2-1/2 minutes giving about 24 values per hour. Strip chart data is considered to represent the hour if more than 30 minutes of the record is valid

Data collected in the first 15 minutes after calibration is generally discarded. Data is considered erroneous if any of the status indication or the station log suggests instrument malfunctioning. In addition, air quality data collected in the first 15 minutes after a brief power outage (less than

10 minutes), in the first hour after a medium duration outage (up to one hour), or in the first four hours after longer outages, will be discarded as unreliable. Any anomalous data reflecting signal spikes or dropouts with a response rate faster than ascribable to atmospheric phenomena (e.g., a tripling of NO_x levels from one scan to the next, followed by a return to the old level on the succeeding scan) will be deleted as an artifice caused by the system.

As an additional check, the calibrated data is also screened manually. First, data is scanned to detect extreme values. When a spurious value is located, it will be checked for its validity. In all cases when invalidated data is deleted, a record of these deletions is maintained. Only the validated data will be reported.

1.2.5 Monthly and Daily Averages

A separate report was created to produce daily and monthly averages of all parameters. Unlike the averages printed on the hourly tables (in Volume I), the averages in this report must have 50% of the values except for temperature and relative humidity which require 75% because of possible diurnal bias.

1.2.6 Monthly and Daily Vectorial Wind Averages Report

This report calculates true vectorial wind averages for both wind speed and direction. The hourly tables in Volume I use a standard mean for wind speed and a unit vector average (vectorial average where wind speed is set equal to 1) for wind direction.

1.3.3 Data Precision and Lower Detection Limit

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
		Air Quality		
SO_2	Meloy SA185-2A	10 $\mu g/m^3$	15 $\mu g/m^3$	15 $\mu g/m^3$
H_2S	Meloy SA185-2	6 $\mu g/m^3$	6$\mu g/m^3$	6 $\mu g/m^3$
NO	Monitor Labs 8440E	2 $\mu g/m^3$	5 $\mu g/m^3$	5 $\mu g/m^3$
NO_x	Monitor Labs 8400E	4 $\mu g/m^3$	5 $\mu g/m^3$	5 $\mu g/m^3$
NO_2	NO_x - NO	4 $\mu g/m^3$	6 $\mu g/m^3$	6 $\mu g/m^3$
THC	Bendix 8200	70 $\mu g/m^3$	70 $\mu g/m^3$	70 $\mu g/m^3$
CH_4	Bendix 8200	70 $\mu g/m^3$	70 $\mu g/m^3$	70 $\mu g/m^3$
NMHC	THC - CH_4	70 $\mu g/m^3$	90 $\mu g/m^3$	90 $\mu g/m^3$
CO	Bendix 8200	0.1 mg/m^3	0.1 mg/m^3	0.1 mg/m^3
O_3	Meloy OA 350-2	2 $\mu g/m^3$	20 $\mu g/m^3$	20 $\mu g/m^3$
TSP	GMWC-2000H	0.5 $\mu g/m^3$	6% or 1 $\mu g/m^3$*	1 $\mu g/m^3$
		Meteorology		
Wind Speed	MRI 1074-2 (Site 023, 10m, 30m, 60m)	0.5 m/s	1% or 1 m/s*	1 m/s
	MRI 1071 (Site 042, 056)	0.5 m/s	2% or 1 m/s*	1 m/s
	Weathermeasure W1034 (Site 020)	0.5 m/s	1% or 1 m/s*	1 m/s
	R.M. Young Bivane 21003	0.2 m/s	1 m/s	1 m/s
Wind Direction	MRI 1074-2 (Site 023, 10m,30m,60m)	N/A	1%	N/A
	MRI 1071 (Site 042, 056)	N/A	5°	N/A

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limi of Data Validity
Meteorology (Cont'd)				
Wind Direction	Weathermeasure W1034 (Site 020)	N/A	1°	N/A
	R.M. Young Bivane 21003	N/A	1°	N/A
Temperature	Weathermeasure T621-TP18X (Site 023)	-50°C	1°C	-50°C
	MRI 1071 (Site 042,056)	-35°C	1°C	-35°C
Delta Temperature	MRI 840	N/A	0.2°C	N/A
σ_θ	R.M. Young 21003 Gill Anemometer	N/A	1°	N/A
σ_ϕ	R.M. Young 21003 Gill Anemometer	N/A	1°	N/A
Relative Humidity	Weathermeasure H324-S	0%	1% (20-80%) 3% (at extremes)	3%
Barometric Pressure	Weathermeasure B 242	462 mm Hg	1 mm Hg	462 mm H
Solar Radiation	Eppley Spectral Pyranometer	0 cal/cm^2/min	0.05 cal/cm^2/min	0.05 cal/cm^2
Mixing Height Inversion Height Stability Type	AV 300A Acoustic Radar	30 m	10 m	30 m

*whichever is greater

1.3.4 AV Nomenclature for Components

Abbreviation (alphabetical order)	Component
BARP	Barometric Pressure
BHD1	Bivane Horizontal WD at level 1 (10 m/30 ft.)
BHD3	Bivane Horizontal WD at level 3 (60 m/200 ft.)
BSP1	Bivane Sigma Phi at level 1 (10 m/30 ft.)
BSP3	Bivane Sigma Phi at level 3 (60 m/200 ft.)
BST1	Bivane Sigma Theta at level 1 (10 m/30 ft.)
BST3	Bivane Sigma Theta at level 3 (60 m/200 ft.)
BVD1	Bivane Vertical WD at level 1 (10 m/30 ft.)
BVD3	Bivane Vertical WD at level 3 (60 m/10 ft.)
BWS1	Bivane Wind Speed at level 1 (10 m/30 ft.)
BWS3	Bivane Wind Speed at level 3 (60 m/200 ft.)
CH4	Methane
CO	Carbon Monoxide
DT2	Delta T#2 (Temperature at 60 m - Temperature at 10 m
HC	Hydrocarbons (corrected for methane)
H2S	Hydrogen Sulfide
INV	Invension Height
MIX	Mixing Height
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOX	Oxides of Nitrogen
O3	Ozone
PART	Particulates (24 hour average)
RH1	Relative Humidity at level 1 (1 m/3 ft.)
SOLR	Solar Radiation (sky only)
SO2	Sulfur Dioxide
STB1	Stability Type at level 1 (50 m)
STB2	Stability Type at level 2 (200 m)

STH2	Sigma Theta at level 2 (10 m/30 ft.)
STH3	Sigma Theta at level 3 (30 m/200 ft.)
STH4	Sigma Theta at level 4 (60 m/200 ft.)
TEM2	Temperature at level 2 (10 m/30 ft.)
TEM3	Temperature at level 3 (30 m/100 ft.)
TEM4	Temperature at level 4 (60 m/200 ft.)
THC	Total Hydrocarbons
WD2	Wind Direction at level 2 (10 m/30 ft.)
WD3	Wind Direction at level 3 (30 m/100 ft.)
WD4	Wind Direction at level 4 (60 m/200 ft.)
WS2	Wind Speed at level 2 (10 m/30 ft.)
WS3	Wind Speed at level 3 (30 m/100 ft.)
WS4	Wind Speed at level 4 (60 m/200 ft.)

SECTION 2.0

REPORTS

```
DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                            C-B OIL SHALE PROJECT, COLORADO     **********************
                                                                                *                    *
                                            SITE   20                           *     FINAL DATA     *
                                                                                *  AS OF 06/JUN/78   *
                                            FEB, 1978                           *                    *
                                                                                **********************
                                            AEROVIRONMENT INC.



                          DAY  WS1   WD1  MIX  STB1 INV  STB2

                            1     0     0     0     0     0     0
                            2     0     0     0     0     0     0
                            3     0     0     0     0     0     0
                            4     0     0     0     0     0     0
                            5     0     0     2     2     2     2
                            6     0     0    24    24    24    24
                            7     0     0    10    10    10    10
                            8     0     0     6     8     8     8
                            9     0     0     7     7     7     7
                           10     0     0    12    12    12    12
                           11     7     0     0     0     0     0
                           12    10     0     4     4     4     4
                           13     0     0     0     0     0     0
                           14     0     0     0     0     0     0
                           15     0     0     0     0     0     0
                           16     0     0     0     0     0     0
                           17     0     0     0     0     0     0
                           18     0     0     5     5     5     5
                           19     0     0     0     0     0     0
                           20     0     0    19    19    19    19
                           21     0     0     3     3     3     3
                           22     0     0     0     0     0     0
                           23     0     0     0     0     0     0
                           24     0     0     0     0     0     0
                           25     0     0     5     5     5     5
                           26     0     0    24    24    24    24
                           27     0     0    24    24    24    24
                           28     0     0    24    24    24    24
                           29     0     0     0     0     0     0
                           30     0     0     0     0     0     0
                           31  (  )  (  )  (  )  (  )  (  )  (  )

                           TT    17     0   169   171   171   171

                         %EFF    97   100    74    74    74    74


ADDTR  (05 APR 78)
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DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*  AS OF 06/JUN/78   *
*                    *
**********************
```

DAY	BARP	BHD1	BHD3	BSP1	BSP3	BST1	BST3	BVD1	BVD3	BWS1	BWS3	CH4	CO	DT2	H2S	NO	NOX	O3
1	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
2	24	24	24	24	24	24	24	24	24	24	24	24	24	10	24	24	24	24
3	15	24	24	24	24	24	24	24	24	24	24	24	24	0	14	14	23	14
4	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
5	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
6	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
7	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
8	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
9	0	24	24	20	24	20	20	24	24	20	20	24	24	0	0	0	24	0
10	0	24	24	13	24	13	13	24	24	13	13	24	24	0	0	0	24	0
11	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
12	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
13	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
14	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
15	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
16	0	24	24	15	24	15	15	24	24	15	15	24	24	0	0	0	24	0
17	0	24	24	10	24	10	10	24	24	14	10	24	24	0	0	0	24	0
18	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
19	17	24	24	24	24	24	24	24	24	24	24	24	24	0	17	17	24	17
20	10	24	24	24	24	24	24	24	24	24	24	24	24	0	10	10	24	10
21	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
22	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
23	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
24	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
25	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
26	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
27	0	24	24	24	24	24	24	24	24	24	24	24	24	0	0	0	24	0
28	0	24	24	24	24	24	24	24	24	24	24	24	24	8	0	0	24	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
TT	90	672	672	634	672	634	634	672	672	638	634	672	672	42	89	89	671	89
%EFF	86	0	0	5	0	5	5	0	0	5	5	0	0	93	86	86	0	86

ADDTR [05 APR 78]

DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 06/JUN/78

DAY	PART	RH1	SOLR	SO2	STH2	STH3	STH4	TEM2	TEM3	TEM4	THC	WD2	WD3	WD4	WS2	WS3	WS4
1	1	0	24	24	24	24	24	24	24	24	24	0	24	24	24	24	24
2	0	0	24	24	24	24	24	10	24	24	24	0	10	10	10	10	10
3	0	5	10	14	24	24	24	0	24	24	24	0	0	0	0	0	0
4	1	0	0	0	24	24	24	0	24	24	24	0	0	0	0	0	0
5	0	0	0	0	24	24	24	0	24	24	24	0	0	0	0	0	0
6	0	0	0	0	24	24	24	0	24	24	24	0	0	0	0	0	0
7	1	0	0	0	24	24	24	0	24	24	24	1	2	0	0	0	0
8	0	0	0	0	24	24	24	0	24	24	24	0	0	0	0	0	0
9	0	0	0	0	24	24	20	0	24	24	24	0	0	0	0	0	0
10	0	9	0	0	24	24	13	0	24	24	24	0	0	0	0	0	0
11	0	0	0	0	24	24	24	0	24	24	24	0	0	0	0	0	0
12	0	0	0	0	24	24	24	0	24	24	24	0	1	0	0	0	0
13	0	0	0	0	24	24	24	0	24	24	24	0	0	0	0	0	0
14	0	0	0	0	24	24	24	0	24	24	24	0	0	0	0	0	0
15	0	2	0	0	24	24	24	0	24	24	24	0	0	0	0	0	0
16	0	24	0	0	24	24	15	0	24	24	24	0	0	0	0	0	0
17	0	14	0	0	24	24	10	0	24	24	24	0	4	0	0	0	0
18	0	0	0	0	24	24	24	0	24	24	24	0	3	0	0	0	0
19	0	0	17	17	24	24	24	0	24	24	24	0	1	0	0	0	0
20	0	0	24	10	24	24	24	0	24	24	24	0	0	0	0	0	0
21	0	0	11	0	24	24	24	0	24	24	24	0	3	0	0	0	0
22	0	0	13	0	24	24	24	0	24	24	24	0	0	0	0	0	0
23	0	0	24	0	24	24	24	0	24	24	24	0	0	0	0	0	0
24	0	0	18	0	24	24	24	0	24	24	24	0	0	0	0	0	0
25	0	0	24	0	24	24	24	0	24	24	24	0	0	0	0	0	0
26	0	0	24	0	24	24	24	0	24	24	24	0	0	0	0	0	0
27	0	0	24	0	24	24	24	0	24	24	24	0	0	0	0	0	0
28	0	0	24	0	24	24	24	8	24	24	24	0	11	8	8	8	8
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
TT	3	54	261	89	672	672	634	42	672	672	672	1	59	42	42	42	42
%EFF	70	91	61	86	0	0	5	93	0	0	0	99	91	93	93	93	93

ADDTR [05 APR 78]

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DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                      C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                           *                    *
                                      SITE    42                           *     FINAL DATA     *
                                                                           *  AS OF 06/JUN/78   *
                                      FEB, 1978                            *                    *
                                                                           **********************
                                      AEROVIRONMENT INC.



                         DAY  WS1  WD1  TEM1

                           1    0    0    0
                           2    0    0    0
                           3    0    0    0
                           4    0    0    0
                           5    0    0    0
                           6    0    0    0
                           7    0    0    0
                           8    0    0    0
                           9    0    0    0
                          10    0    0    0
                          11    0    0    0
                          12    0    0    0
                          13    0    0    0
                          14   18   18   18
                          15   24   24   24
                          16   24   24   24
                          17   24   24   24
                          18   24   24   24
                          19   24   24   24
                          20   24   24   24
                          21   24   24   24
                          22   24   24   24
                          23   24   24   24
                          24   10   10   10
                          25    0    0    0
                          26    0    0    0
                          27    0    0    0
                          28    0    0    0
                          29    0    0    0
                          30    0    0    0
                          31  [ ]  [ ]  [ ]

                          TT  244  244  244

                        %EFF   63   63   63

ADDTR  [05 APR 78]
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```
DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                              C-B OIL SHALE PROJECT, COLORADO        **********************
                                                                                     *                    *
                                              SITE    56                             *     FINAL DATA     *
                                                                                     *  AS OF 06/JUN/78   *
                                              FEB, 1978                              *                    *
                                                                                     **********************
                                              AEROVIRONMENT INC.



                                   DAY  WS1  WD1  TEM1

                                     1    0    0    0
                                     2    0    0    0
                                     3    0    0    0
                                     4    0    0    0
                                     5    0    0    0
                                     6    0    0    0
                                     7    0    0    0
                                     8    0    0    0
                                     9    0    0    0
                                    10    0    0    0
                                    11    0    0    0
                                    12    0    0    0
                                    13    7    7    7
                                    14   14   14   14
                                    15    0    0    0
                                    16    0    0    0
                                    17    0    0    0
                                    18    0    0    0
                                    19    0    0    0
                                    20    0    0    0
                                    21    0    0    0
                                    22    0    0    0
                                    23    0    0    0
                                    24    0    0    0
                                    25    0    0    0
                                    26    0    0    0
                                    27    0    0    0
                                    28    0    0    0
                                    29    0    0    0
                                    30    0    0    0
                                    31  (  ) (  ) (  )

                                    TT   21   21   21

                                  %EFF   96   96   96


AODTR  (05 APR 78)
```

```
      STABILITY CLASS REPORT                                                                         PAGE:   1
      STABILITY DETERMINED FROM
      DELTA T #2( TEMP @60M - TEMP @10M)
                                                           C-8 OIL SHALE PROJECT, COLORADO         *********************
                                                                                                   *                   *
                                                           SITE   23                               *     FINAL DATA    *
                                                                                                   *  AS OF 19/JUL/78  *
                                                           FEB, 1978                               *                   *
                                                                                                   *********************
                                                           AEROVIRONMENT INC.


                                          CLOCK HOUR   (LOCAL STANDARD TIMES)


DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

  1  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)
  2  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)     D     D     D     D     D     D     D     D     D     E     E     E     E     E
  3     D     E     E     E     F     E     F     F     F     F     E     D     D     D     D     D     D     D     E     E     E     F     E     F
  4     F     F     F     F     F     F     F     F     F     E     E     D     D     D     D     D     D     E     F     E     F     F     F     E
  5     F     F     E     E     F     F     F     F     F     E     E     D     D     D     D     D     D     E     E     E     E     D     D     D
  6     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     E     E     E     E     E     D
  7     D     D     D     D     E     E     E     E     E     E     E     E     D     D     D     D     D     D     D     D     D     E     D     D
  8     D     D     E     D     D     D     E     D     D     D     D     D     E     E     D     D     D     D     D     E     E     F     F     F
  9     E     F     E     E     E     D     E     E     D     D     D     D     C     D     D     D     D     D     D     D     D     D     D     D
 10     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     E     E     E     D     D     D
 11     E     E     E     E     E     E     E     E     D     D     D     D     D     D     D     D     D     D     D     E     E     E     E     E
 12     E     E     E     D     E     E     E     E     E     D     C     C     C     D     D     D     D     D     D     E     E     E     E     E
 13     E     E     E     E     E     E     E     E     E     D     D     D     D     C     C     D     D     D     D     D     E     E     E     E
 14     E     E     D     D     E     E     E     E     D     D     D     D     D     D     D     C     D     D     D     D     D     D     D     E
 15     E     E     E     E     E     E     F     E     E     E     D     D     D     D     D     D     D     D     D     D     D     E     E     E
 16     E     E     D     E     D     D     D     D     D     D     D     E     B     B     B     D     D     D     D     E     E     E     D     E
 17     E     E     F     E     E     E     E     E     E     D     A     B     B     E     E     C     B     C     D     B     E     E     E     E
 18     E     F     E     F     F     F     F     F     E     D     B     B     B     C     C     D     D     C     D     D     D     D     D     D
 19     D     D     D     D     D     E     D     E     D     D     B     B     C     A     C     D     D     D     D     D     E     E     E     E
 20     E     D     D     D     D     D     D     D     D     D     D     C     C     B     B     C     D     D     E     E     E     D     E     E
 21     E     E     E     E     F     F     E     F     E     E     E     D     D     D     D     D     D     D     F     F     F     F     F     E
 22     F     F     F     F     F     F     F     F     F     E     D     D     D     D     D     D     D     E     E     F     F     F     F     E
 23     F     F     F     F     F     F     F     F     E     D     E     D     D     D     D     D     D     E     E     E     E     F     F     F
 24     F     E     F     F     F     F     F     F     F     E     D     D     D     D     D     D     D     E     E     F     F     F     E     E
 25     E     E     E     E     E     E     E     E     E     D     D     D     D     D     D     D     D     D     D     E     E     E     E     E
 26     E     E     E     E     E     E     E     E     D     D     D     D     D     D     D     D     D     D     E     D     E     E     E     E
 27     E     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D
 28     D     D     E     E     F     F     F     F     F     E     D     D     D     D     D     D  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)

  *   INDICATES STABILITY CLASS WITHOUT THE WIND SPEED VALUE

  AQSCR   (05 APR 78)                                                            WIND SPEED: M/S
```

```
STABILITY CLASS REPORT                                                                                 PAGE:   2
STABILITY DETERMINED FROM
DELTA T #2( TEMP @60M - TEMP @10M)
                                                  C-B OIL SHALE PROJECT, COLORADO          **********************
                                                                                           *                    *
                                                  SITE   23                                *     FINAL DATA     *
                                                                                           *  AS OF 19/JUL/78   *
                                                  FEB, 1978                                *                    *
                                                                                           **********************
                                                  AEROVIRONMENT INC.


                              HOURLY WIND SPEED AND DIRECTION FOR
                                      STABILITY CLASS  A
                              CLOCK HOUR   [LOCAL STANDARD TIMES]

DAY   00  01  02  03  04  05  06  07  08  09  10  11  12  13  14  15  16  17  18  19  20  21  22  23

  1  [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
     [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
  2  [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
     [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
  3  [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
     [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
  4  [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
     [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
  5  [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
     [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
  6  [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
     [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
  7  [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
     [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
  8  [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
     [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
  9  [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
     [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
 10  [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
     [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
 11  [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
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  AQSCR  [05 APR 78]                                                      WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                              PAGE:  3
STABILITY DETERMINED FROM
DELTA T #2( TEMP @60M - TEMP @10M)
                                                             C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                                  *                   *
                                                             SITE   23                            *    FINAL DATA     *
                                                                                                  *  AS OF 19/JUL/78  *
                                                             FEB, 1978                            *                   *
                                                                                                  *********************
                                                             AEROVIRONMENT INC.


                                         HOURLY WIND SPEED AND DIRECTION FOR
                                                STABILITY CLASS  A
                                         CLOCK HOUR   (LOCAL STANDARD TIMES)


DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

 17  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]     1  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
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 18  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
     [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
 19  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]     0  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
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STABILITY CLASS REPORT                                                                                    PAGE:   4
STABILITY DETERMINED FROM
DELTA T #2( TEMP @60M - TEMP @10M)
                                                              C-B OIL SHALE PROJECT, COLORADO          **********************
                                                                                                        *                    *
                                                              SITE    23                                *     FINAL DATA     *
                                                                                                        *  AS OF 19/JUL/78   *
                                                              FEB, 1978                                 *                    *
                                                                                                        **********************
                                                              AEROVIRONMENT INC.


                                          HOURLY WIND SPEED AND DIRECTION FOR
                                                 STABILITY CLASS  B
                                          CLOCK HOUR    (LOCAL STANDARD TIMES)


DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

 1   ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )
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14   ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )
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15   ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )
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16   ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )   3    4    4   ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )  ( )
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STABILITY CLASS REPORT                                                                    PAGE:   5
STABILITY DETERMINED FROM
DELTA T #2( TEMP @60M - TEMP @10M)
                                                      C-8 OIL SHALE PROJECT, COLORADO       **********************
                                                                                            *                    *
                                                      SITE   23                             *     FINAL DATA     *
                                                                                            *  AS OF 19/JUL/78   *
                                                      FEB, 1978                             *                    *
                                                                                            **********************
                                                      AEROVIRONMENT INC.


                                   HOURLY WIND SPEED AND DIRECTION FOR
                                            STABILITY CLASS  B
                                   CLOCK HOUR    [LOCAL STANDARD TIMES]

DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

17   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]     4     4  [  ]  [  ]  [  ]     3  [  ]  [  ]     0  [  ]  [  ]  [  ]  [  ]
     [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]    NW   NNW  [  ]  [  ]  [  ]     N  [  ]  [  ]  [VA]  [  ]  [  ]  [  ]  [  ]
18   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]     2     2     2  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
     [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]   ESE   NNE   NNW  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
19   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]     1     1  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
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20   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]     3     3  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
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21   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
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22   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
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24   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
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25   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
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26   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
     [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
27   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
     [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
28   [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]
     [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]

 AQSCR  [05 APR 78]                                                                  WIND SPEED: M/S
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STABILITY CLASS REPORT
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

FINAL DATA AS OF 19/JUL/78

HOURLY WIND SPEED AND DIRECTION FOR
STABILITY CLASS C
CLOCK HOUR (LOCAL STANDARD TIMES)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
8	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
9	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	5 SSE	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	4 SSW	4 SSW	4 SW	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	4 SSW	3 SW	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
14	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	3 N	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
15	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
16	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

AQSCR (05 APR 78)

WIND SPEED: M/S

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STABILITY CLASS REPORT                                                                                  PAGE:   7
STABILITY DETERMINED FROM
DELTA T #2( TEMP @60M - TEMP @10M)
                                                            C-8 OIL SHALE PROJECT, COLORADO       *********************
                                                                                                  *                   *
                                                            SITE   23                             *     FINAL DATA    *
                                                                                                  *  AS OF 19/JUL/78  *
                                                            FEB, 1978                             *                   *
                                                                                                  *********************
                                                            AEROVIRONMENT INC.


                                        HOURLY WIND SPEED AND DIRECTION FOR
                                                 STABILITY CLASS  C
                                        CLOCK HOUR   [LOCAL STANDARD TIMES]

DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

17  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]    4 [  ]    2 [  ] [  ] [  ] [  ] [  ] [  ]
    [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]   NW [  ]    E [  ] [  ] [  ] [  ] [  ] [  ]
18  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]    2    2 [  ] [  ]    3 [  ] [  ] [  ] [  ] [  ] [  ]
    [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]  NNW  NNW [  ] [  ]   SW [  ] [  ] [  ] [  ] [  ] [  ]
19  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]    1 [  ]    1 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
    [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]   NW [  ]   NW [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
20  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]    3    3 [  ] [  ]    2 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
    [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]   NW    N [  ] [  ]    N [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
21  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
    [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
22  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
    [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
23  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
    [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
24  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
    [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
25  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
    [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
26  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
    [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
27  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
    [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
28  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
    [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]

 AQSCR  [05 APR 78]                                                                       WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                         PAGE:   8
STABILITY DETERMINED FROM
DELTA T #2( TEMP @60M - TEMP @10M)
                                                 C-B OIL SHALE PROJECT, COLORADO         *********************
                                                                                         *                   *
                                                 SITE   23                               *     FINAL DATA    *
                                                                                         *  AS OF 19/JUL/78  *
                                                 FEB, 1978                               *                   *
                                                                                         *********************
                                                 AEROVIRONMENT INC.


                                  HOURLY WIND SPEED AND DIRECTION FOR
                                            STABILITY CLASS  D
                                  CLOCK HOUR   [LOCAL STANDARD TIMES]


DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23


  1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
  2 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     7     4     5     5     5     5     6     4     3 [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW   SSW   SSW     S     S   SSW   SSW   SSW   ESE [   ] [   ] [   ] [   ] [   ]
  3     3 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     4     6     7     7     6     7     5 [   ] [   ] [   ] [   ] [   ] [   ]
       SE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW    SW   SSW   SSW    SW   SSW     S [   ] [   ] [   ] [   ] [   ] [   ]
  4 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1     2     2     1     2 [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     N  (VA)   SSE    SE    SE     S [   ] [   ] [   ] [   ] [   ] [   ] [   ]
  5 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     3     3     2     2     3     3 [   ] [   ] [   ] [   ]     5     3     3
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    SE   SSW    SE   SSW   SSW   SSW [   ] [   ] [   ] [   ]   WSW    SE   ESE
  6     2     3     3     4     6     4     5     4     1     3     4     4     5     4     4     3     3     2 [   ] [   ] [   ] [   ] [   ]     1
       SE   SSW    SW   SSW    SW    SW    SW   SSW  (VA)    SW    SW    SW    SW    SW    SW    SW    SW     S [   ] [   ] [   ] [   ] [   ]   WNW
  7     0     0     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     4     5     5     6     5     6     6     4     4 [   ]     4     3
     (IM)   WNW   NNW     S [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    SW   SSW   SSW   SSW   SSW     S     S     S   SSE [   ]     S     S
  8     3     2 [   ]     1     3     3 [   ]     5     3     4     4     4 [   ] [   ]     5     4     4     4     1 [   ] [   ] [   ] [   ] [   ]
        S   SSE [   ]  (VA)   SSW    SW [   ]   WNW    NW   WNW    NW   WNW [   ] [   ]   WNW   WNW    NW   WNW   WNW [   ] [   ] [   ] [   ] [   ]
  9 [   ] [   ] [   ] [   ] [   ]     3 [   ] [   ]     3     2     4     7 [   ]     4     4     6     4     3     3     3     1     2     2     3
    [   ] [   ] [   ] [   ] [   ]   SSE [   ] [   ]    SE   SSE   SSE     S [   ]     S     S     S     S   SSE   SSE   SSE     E    SE    SE    SE
 10     4     3     2     2     3     5     5     5     5     6     7     6     8     8     7     7     5     5 [   ] [   ] [   ]     4     4     4
        S  (VA)    SE   SSE   SSE     S     S   SSE   SSE     S     S     S     S     S     S     S     S     S [   ] [   ] [   ]    SE    SE    SE
 11 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2     2     2     3     2     4     6     3     3     4     3 [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSE    SE   SSE    SW   SSW   SSW    SW    SW    SW    SW    SW [   ] [   ] [   ] [   ] [   ]
 12 [   ] [   ] [   ]     3 [   ] [   ] [   ] [   ] [   ]     3 [   ] [   ] [   ]     4     2     3     3     2     1 [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ]   SSW [   ] [   ] [   ] [   ] [   ]    SE [   ] [   ] [   ]    SW     W     N     W     W     S [   ] [   ] [   ] [   ] [   ]
 13 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2     4     4     5 [   ] [   ]     3     3     3     2     2 [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     W   SSW   SSW   SSW [   ] [   ]   SSW   SSW   SSW     S     S [   ] [   ] [   ] [   ]
 14 [   ] [   ]     2     3 [   ] [   ] [   ] [   ]     0     0     1     2     2     3     3 [   ]     2     1     1     1     2     1     1 [   ]
    [   ] [   ]     S   SSW [   ] [   ] [   ] [   ]    SE   NNE     N     N     N   NNW   NNW [   ]   NNE   NNE   NNE    NW    NW   WSW    SW [   ]
 15 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1     3     3     4     5     6     4     3     1     1 [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]  (VA)     N   WSW    SW    SW   SSW    SW    SW   WSW     W     S [   ] [   ] [   ]
 16 [   ] [   ]     1 [   ]     1     1     2     2     4     3     3 [   ] [   ] [   ] [   ]     4     5     4     2 [   ] [   ] [   ]     1 [   ]
    [   ] [   ]     W [   ]   NNW   WNW    NW    NW    NW    NW    NW [   ] [   ] [   ] [   ]     N   NNW     N     N [   ] [   ] [   ]     S [   ]

 AQSCR  (05 APR 78)                                                                      WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                        PAGE: 9
STABILITY DETERMINED FROM
DELTA T #2( TEMP @60M - TEMP @10M)
                                                    C-B OIL SHALE PROJECT, COLORADO    **********************
                                                                                       *                    *
                                                    SITE   23                          *     FINAL DATA     *
                                                                                       *  AS OF 19/JUL/78   *
                                                    FEB, 1978                          *                    *
                                                                                       **********************
                                                    AEROVIRONMENT INC.


                                    HOURLY WIND SPEED AND DIRECTION FOR
                                             STABILITY CLASS  D
                                    CLOCK HOUR    (LOCAL STANDARD TIMES)


DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

17 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     0 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1 [   ] [   ] [   ] [   ] [   ]
   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    NE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     E [   ] [   ] [   ] [   ] [   ]
18 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1 [   ] [   ] [   ] [   ] [   ]     2     4 [   ]     3     1     1     1     3     2
   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     E [   ] [   ] [   ] [   ] [   ]    NW    SW [   ]    SW    SW    SW     W   NNW   WNW
19     2     1     2     3     2 [   ]     1 [   ]     1     0 [   ] [   ] [   ] [   ] [   ]     1     1     1     1     1 [   ] [   ] [   ] [   ]
     WNW     W    NW    NW   WNW [   ]    SW [   ]     S   WNW [   ] [   ] [   ] [   ] [   ]   ENE    SE   ESE    SE   SSE [   ] [   ] [   ] [   ]
20 [   ]     1     1     1     2     1     2     3     3     3     2 [   ] [   ] [   ] [   ] [   ]     1     1 [   ] [   ] [   ]     1 [   ] [   ]
   [   ]   NNW   WNW     W   WNW   WNW   WNW   WNW    NW   WNW    NW [   ] [   ] [   ] [   ] [   ]    NW     W [   ] [   ] [   ]   SSE [   ] [   ]
21 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1     1     1     2     4     3 [   ] [   ] [   ] [   ] [   ] [   ]
   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     N  [VA]   NNW     N     S     S   SSW [   ] [   ] [   ] [   ] [   ] [   ]
22 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     2     1     1     1     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ]
   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]  [VA]     N    NW   NNE    NE   NNW     N [   ] [   ] [   ] [   ] [   ] [   ] [   ]
23 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1 [   ]     2     3     1     2     3     4 [   ] [   ] [   ] [   ] [   ] [   ] [   ]
   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]  [VA] [   ]    SW   SSW     S    SW   SSW   SSW [   ] [   ] [   ] [   ] [   ] [   ] [   ]
24 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     4     3     2     3     3     4     4 [   ] [   ] [   ] [   ] [   ] [   ] [   ]
   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    SW   SSW    SW    SW   SSW    SW   SSW [   ] [   ] [   ] [   ] [   ] [   ] [   ]
25 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     3     6     5     6     6     7     6     5     4     5 [   ] [   ] [   ] [   ] [   ]
   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW    SW    SW   SSW    SW    SW   SSW   SSW   SSW    SW [   ] [   ] [   ] [   ] [   ]
26 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     4     3     4     6     5     6     6     6     5     5 [   ]     7 [   ] [   ] [   ] [   ]
   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW   SSW    SW    SW   SSW   SSW   SSW    SW   SSW   SSW [   ]   SSW [   ] [   ] [   ] [   ]
27 [   ]     3     3     5     4     3     1     2     3     4     5     7     9     8     8     7     7     6     7     4     4     4     4     2
   [   ]  [VA]     W     S   SSW   SSW    SW   SSW     S    SW    SW    SW    SW    SW    SW   SSW    SW   SSW   SSW   SSW   WNW   WNW     W     W
28     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2     2     4     4     4     3 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
      SW   NNW [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    SE   SSW    SW   SSW   SSW   SSW [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]

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STABILITY CLASS REPORT                                                                    PAGE:  10
STABILITY DETERMINED FROM
DELTA T #2( TEMP @60M - TEMP @10M)
                                                       C-B OIL SHALE PROJECT, COLORADO      *********************
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                                                       SITE   23                            *     FINAL DATA    *
                                                                                            *  AS OF 19/JUL/78  *
                                                       FEB, 1978                            *                   *
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                                                       AEROVIRONMENT INC.


                                        HOURLY WIND SPEED AND DIRECTION FOR
                                                STABILITY CLASS  E
                                        CLOCK HOUR   (LOCAL STANDARD TIMES)


DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

  1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
  2 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1     2     2     3
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     E   ESE     S   ESE    SE
  3 [   ]     1     1     1 [   ]     2 [   ] [   ] [   ] [   ]     4 [   ] [   ] [   ] [   ] [   ] [   ] [   ]     4     2     2 [   ]     2 [   ]
    [   ]   ESE     E     E [   ]   ESE [   ] [   ] [   ] [   ]  [VA] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW    SE    SE [   ]   SSE [   ]
  4 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1 [   ] [   ] [   ] [   ] [   ] [   ]     2 [   ]     1 [   ] [   ] [   ]     3
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     E   ENE [   ] [   ] [   ] [   ] [   ] [   ]    SW [   ]  [VA] [   ] [   ] [   ]     S
  5 [   ] [   ]     3     4 [   ] [   ] [   ] [   ] [   ]     2     2 [   ] [   ] [   ] [   ] [   ] [   ]     3     1     2     1 [   ] [   ] [   ]
    [   ] [   ]   SSE   SSE [   ] [   ] [   ] [   ] [   ]   ESE   ENE [   ] [   ] [   ] [   ] [   ] [   ]   SSW     S    SE     S [   ] [   ] [   ]
  6 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     2     1     1     1 [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   ESE     S     S    SE   SSW [   ]
  7 [   ] [   ] [   ] [   ]     1     2     2     1     1     1     1     3 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1 [   ] [   ]
    [   ] [   ] [   ] [   ]   ESE     E    SW     E    SE   ENE    NE     S [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]  [VA] [   ] [   ]
  8 [   ] [   ]     1 [   ] [   ] [   ]     2 [   ] [   ] [   ] [   ] [   ]     4     4 [   ] [   ] [   ] [   ] [   ]     1     2 [   ] [   ] [   ]
    [   ] [   ]     E [   ] [   ] [   ]    SW [   ] [   ] [   ] [   ] [   ]   WNW   WNW [   ] [   ] [   ] [   ] [   ]     S     S [   ] [   ] [   ]
  9     2 [   ]     3     2     3 [   ]     4     3 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
       SE [   ]   SSE    SE    SE [   ]   SSE    SE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
 10 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     4     3     3 [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSE   SSE     S [   ] [   ] [   ]
 11     4     3     3     3     3     4     4     4 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2     2     3     4     5
      SSE    SE   SSE    SE   SSE     S   SSE   SSE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    SE     S     S     S     S
 12     1     1     3 [   ]     3     3     2     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1     1     2     1
     [VA]     S    SE [   ]   SSW     S    SE   ESE   SSE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    SE   SSW   SSW   SSW    SE
 13     1     2     1     1     1     1     1     2     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2     2     1     1
      SSW   SSW   ESE   SSE   SSE   SSE    SE   SSE   ESE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    SE    SE   ESE   ESE
 14     1     1 [   ] [   ]     2     1     2     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1
      ESE   ESE [   ] [   ]     N     E   WSW    SW [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW
 15     1     1     1     1     1     2 [   ]     1     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1     1
      SSW   SSE    SE   SSW    SE   SSE [   ]   SSE   SSE     E [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     E   SSW    SW
 16     1     1 [   ]     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ]     5 [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1     1 [   ]     1
       SE   SSE [   ]     N [   ] [   ] [   ] [   ] [   ] [   ] [   ]    NW [   ] [   ] [   ] [   ] [   ] [   ] [   ]  [VA]   WSW     W [   ]   SSW

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STABILITY CLASS REPORT                                                                                       PAGE: 11
STABILITY DETERMINED FROM
DELTA T #2( TEMP @60M - TEMP @10M)
                                                                    C-B OIL SHALE PROJECT, COLORADO     **********************
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                                                                    SITE   23                           *     FINAL DATA     *
                                                                                                        *  AS OF 19/JUL/78   *
                                                                    FEB, 1978                           *                    *
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                                                                    AEROVIRONMENT INC.


                                                HOURLY WIND SPEED AND DIRECTION FOR
                                                        STABILITY CLASS  E
                                                CLOCK HOUR   [LOCAL STANDARD TIMES]


DAY     00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

17       1     1 [   ]     0     1     1     1     0     0 [   ] [   ] [   ] [   ]     5     4 [   ] [   ] [   ] [   ] [   ]     1     1     1     1
         E   SSE [   ]   SSW    SE   SSW   SSW   NNE     E [   ] [   ] [   ] [   ]   NNW     N [   ] [   ] [   ] [   ] [   ]    SW   SSW     S    SW
18       1 [   ]     1 [   ] [   ] [   ] [   ] [   ]     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
         W [   ]   WSW [   ] [   ] [   ] [   ] [   ]     E [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
19   [   ] [   ] [   ] [   ] [   ]     1 [   ]     0 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1     0     1
     [   ] [   ] [   ] [   ] [   ]   WNW [   ]    SE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     S   SSW   ESE     S
20       1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1     1 [   ]     0     1
        SE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     W    SE   SSE [   ]    SW   SSW
21       0     1     1     0 [   ] [   ]     1 [   ]     1     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1
        SW   ESE     S     S [   ] [   ]     S [   ]   ESE   ENE   NNE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSE
22   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     0 [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2     2 [   ] [   ] [   ] [   ]     1
     [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    NE [   ] [   ] [   ] [   ] [   ] [   ] [   ]   NNE    SW [   ] [   ] [   ] [   ]     E
23   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2 [   ]     1 [   ] [   ] [   ] [   ] [   ] [   ]     4     4     2     1 [   ] [   ] [   ]
     [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   ESE [   ]     N [   ] [   ] [   ] [   ] [   ] [   ]   SSW   SSW    SE    SE [   ] [   ] [   ]
24   [   ]     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2 [   ] [   ] [   ] [   ] [   ] [   ] [   ]     4     4 [   ] [   ] [   ]     1     1
     [   ]   ESE [   ] [   ] [   ] [   ] [   ] [   ] [   ]  [VA] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW   SSW [   ] [   ] [   ]  [VA]   ESE
25       2     2     2     2     3     3     1     2     4 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     5     4     4     4     4
         S     S   SSW     S   SSW   SSW     S   SSW   WSW [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    SW    SW   SSW    SW    SW
26       2     3     2     3     4     1     1     2 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     5 [   ]     4     4     2     3
       SSW   SSW    SW   SSW   SSW  [VA]     S  [VA] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW [   ]   SSW     S     E    SE
27       1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
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28   [   ] [   ]     1     1 [   ] [   ] [   ] [   ] [   ]     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
     [   ] [   ]    NW   WSW [   ] [   ] [   ] [   ] [   ]  [VA] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]

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    STABILITY CLASS REPORT                                                       PAGE: 12
    STABILITY DETERMINED FROM
    DELTA T #2( TEMP @60M - TEMP @10M)
                                              C-8 OIL SHALE PROJECT, COLORADO   *********************
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                                              SITE   23                         *     FINAL DATA    *
                                                                                *  AS OF 19/JUL/78  *
                                              FEB, 1978                         *                   *
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                                              AEROVIRONMENT INC.


                            HOURLY WIND SPEED AND DIRECTION FOR
                                    STABILITY CLASS  F
                            CLOCK HOUR   (LOCAL STANDARD TIMES)

DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

 1  [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
 2  [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
 3  [   ] [   ] [   ] [   ]     2 [   ]     1     1     2     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2 [   ]     2
    [   ] [   ] [   ] [   ]    SE [   ]   NNW   ESE     E    NE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   ESE [   ]  (VA)
 4      2     2     2     2     1     1     1     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1 [   ]     1     1     2 [   ]
       SE   ESE   SSE     S  (VA)     S   NNW  (VA)    SE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]  (VA) [   ]     W    SE     S [   ]
 5      2     2 [   ] [   ]     2     2     1     3     2 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
      SSE   SSE [   ] [   ]   ESE    SE   ESE    SE   SSE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
 6  [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
 7  [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
 8  [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2     1     2
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW     S    SE
 9  [   ]     3 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ]     S [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
10  [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
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11  [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
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12  [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
13  [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
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14  [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
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15  [   ] [   ] [   ] [   ] [   ] [   ]     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ]     S [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
16  [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
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STABILITY CLASS REPORT                                                              PAGE: 13
STABILITY DETERMINED FROM
DELTA T #2( TEMP @60M - TEMP @10M)
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                                                      SITE   23                           *     FINAL DATA    *
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                                                      AEROVIRONMENT INC.


                                      HOURLY WIND SPEED AND DIRECTION FOR
                                               STABILITY CLASS  F
                                      CLOCK HOUR   (LOCAL STANDARD TIMES)

DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

17   [   ] [   ]     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
     [   ] [   ]    SW [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
18   [   ]     1 [   ]     1     1     1     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
     [   ]     S [   ]   SSW    SW    SW   WNW     E [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
19   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
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20   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
     [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
21   [   ] [   ] [   ] [   ]     0     1 [   ]     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2     1     1     1     1 [   ]
     [   ] [   ] [   ] [   ]   SSE    SW [   ]   SSE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW     W  [VA]  [VA]    SE [   ]
22       1     1     1     1     1     1     1     1     0 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1     1     1 [   ]
        SE   SSW    SE     S     W     W    SW    SE    SE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    SW  [VA]   SSE    SE [   ]
23       1     1     1     1     1     2     2     2 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2     2     2
       ESE   SSE   ENE    SE   ENE    SE    SE    SE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    SE    SE    SE
24       1 [   ]     1     1     1     1     2     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2     1     1 [   ] [   ]
       ESE [   ]   ESE   ESE  [VA]  [VA]    SE     E     E [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW   ESE   ESE [   ] [   ]
25   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
     [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
26   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
     [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
27   [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
     [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
28   [   ] [   ] [   ] [   ]     2     1     1     1     0 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
     [   ] [   ] [   ] [   ]     S   SSW    SE   SSW   SSE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]

 AQSCR  (05 APR 78)                                                                 WIND SPEED: M/S
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                           PAGE:   1

                                                              C-B OIL SHALE PROJECT, COLORADO    **********************
                                                                                                 *                    *
                                                              SITE   20                          *     FINAL DATA     *
                                                                                                 *  AS OF 21/AUG/78   *
                                                              FEB, 1978                          *                    *
                                                                                                 **********************
                                                              AEROVIRONMENT INC.


COMPONENT                    AVE TIME  RANK  DAY  HOUR(BEG)  VALUE     UNITS      WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                     LST                              10M                 10M

PARTICULATES (24 HR. AVG)
                              24 HR      1    13     00        6.4  UGM/ M**3           2      M/S          145       DEG
                                         2    16     00        6.4  UGM/ M**3           3      M/S          200       DEG
                                         3    22     00        6.2  UGM/ M**3           2      M/S          170       DEG
                                         4    10     00        5.8  UGM/ M**3           4      M/S          125       DEG
                                         5    28     00        4.0  UGM/ M**3           2      M/S          130       DEG
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                   PAGE:   1

                                                  C-6 OIL SHALE PROJECT, COLORADO      **********************
                                                                                       *                    *
                                                  SITE   23                            *     FINAL DATA     *
                                                                                       *  AS OF 21/AUG/78   *
                                                  FEB, 1978                            *                    *
                                                                                       **********************
                                                  AEROVIRONMENT INC.


COMPONENT                          AVE TIME  RANK  DAY  HOUR(BEG)  VALUE    UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                          LST                            10M                 10M

CARBON MONOXIDE
                                    01 HR      1     0     23      [IM]  MGM/ M**3     [  ]      M/S        [  ]        DEG
                                               2     0     23      [IM]  MGM/ M**3     [  ]      M/S        [  ]        DEG
                                               3     0     23      [IM]  MGM/ M**3     [  ]      M/S        [  ]        DEG
                                               4     0     23      [IM]  MGM/ M**3     [  ]      M/S        [  ]        DEG
                                               5     0     23      [IM]  MGM/ M**3     [  ]      M/S        [  ]        DEG
                                    08 HR      1     0     23      [IM]  MGM/ M**3     [  ]      M/S        [  ]        DEG
                                               2     0     23      [IM]  MGM/ M**3     [  ]      M/S        [  ]        DEG
                                               3     0     23      [IM]  MGM/ M**3     [  ]      M/S        [  ]        DEG
                                               4     0     23      [IM]  MGM/ M**3     [  ]      M/S        [  ]        DEG
                                               5     0     23      [IM]  MGM/ M**3     [  ]      M/S        [  ]        DEG
PARTICULATES (24 HR. AVG)
                                    24 HR      1    16     00      14.0  UGM/ M**3       2       M/S        245         DEG
                                               2     4     00       7.1  UGM/ M**3       2       M/S        [IM]        DEG
                                               3     7     00       5.2  UGM/ M**3       3       M/S        175         DEG
                                               4    19     00       5.1  UGM/ M**3       1       M/S        210         DEG
                                               5    22     00       4.7  UGM/ M**3       1       M/S        155         DEG
HYDROCARBONS (CORRECTED FOR CH4)
                                    03 HR      1     0     23      [IM]  UGM/ M**3     [  ]      M/S        [  ]        DEG
                                               2     0     23      [IM]  UGM/ M**3     [  ]      M/S        [  ]        DEG
                                               3     0     23      [IM]  UGM/ M**3     [  ]      M/S        [  ]        DEG
                                               4     0     23      [IM]  UGM/ M**3     [  ]      M/S        [  ]        DEG
                                               5     0     23      [IM]  UGM/ M**3     [  ]      M/S        [  ]        DEG


AQISA  [22 APR 78]
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                      PAGE:   2

                                                        C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                             *                    *
                                                        SITE   23                            *     FINAL DATA     *
                                                                                             *  AS OF 06/JUN/78   *
                                                        FEB, 1978                            *                    *
                                                                                             **********************
                                                        AEROVIRONMENT INC.


COMPONENT                     AVE TIME  RANK  DAY  HOUR(BEG)  VALUE     UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                      LST                            10M                  10M

SULFUR DIOXIDE
                               03 HR     1    23     02        15   UGM/ M**3          1      M/S          85        DEG
                                         2    20     10        15   UGM/ M**3          3      M/S         325        DEG
                                         3    22     20        15   UGM/ M**3          1      M/S        (IM)        DEG
                                         4    23     05        10   UGM/ M**3          2      M/S         135        DEG
                                         5    20     13        10   UGM/ M**3          3      M/S         135        DEG
                               24 HR     1    22     16        10   UGM/ M**3          2      M/S         150        DEG
                                         2    20     10        10   UGM/ M**3          1      M/S         200        DEG
                                         3    21     10        10   UGM/ M**3          1      M/S         165        DEG
                                         4    24     18        10   UGM/ M**3          3      M/S         190        DEG
                                         5    23     16        10   UGM/ M**3          2      M/S         160        DEG
OZONE
                               01 HR     1    26     14       130   UGM/ M**3          6      M/S         210        DEG
                                         2    26     15       130   UGM/ M**3          6      M/S         215        DEG
                                         3    11     15       125   UGM/ M**3          3      M/S         220        DEG
                                         4    13     11       125   UGM/ M**3          4      M/S         210        DEG
                                         5    13     12       125   UGM/ M**3          5      M/S         205        DEG


 ADISA  (22 APR 78)
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                          PAGE:  1
                                                              C-B OIL SHALE PROJECT, COLORADO    **********************
                                                                                                 *                    *
                                                              SITE   42                          *     FINAL DATA     *
                                                                                                 *  AS OF 21/AUG/78   *
                                                              FEB, 1978                          *                    *
                                                                                                 **********************
                                                              AEROVIRONMENT INC.


COMPONENT                      AVE TIME  RANK  DAY  HOUR(BEG)  VALUE    UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                       LST                           10M                 10M

PARTICULATES (24 HR, AVG)
                                24 HR     1     1      00       16.8  UGM/ M**3         2      M/S          155       DEG
                                          2     4      00       11.5  UGM/ M**3         2      M/S          130       DEG
                                          3    16      00        9.5  UGM/ M**3      (IM)      M/S         (IM)       DEG
                                          4    25      00        7.1  UGM/ M**3         3      M/S          155       DEG
                                          5    13      00        4.0  UGM/ M**3         2      M/S          145       DEG
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                          PAGE:   1

                                                         C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                              *                   *
                                                         SITE   56                            *     FINAL DATA    *
                                                                                              *  AS OF 21/AUG/78  *
                                                         FEB, 1978                            *                   *
                                                                                              *********************
                                                         AEROVIRONMENT INC.


COMPONENT                     AVE TIME  RANK  DAY  HOUR(BEG)  VALUE    UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                      LST                           10M                 10M

PARTICULATES (24 HR. AVG)
                               24 HR      1    16     00        6.8  UGM/ M**3          2     M/S          195       DEG
                                          2    28     00        4.8  UGM/ M**3          2     M/S          115       DEG
                                          3    13     00        3.5  UGM/ M**3       (IM)     M/S         (IM)       DEG
                                          4    25     00        2.9  UGM/ M**3          2     M/S          135       DEG
                                          5    22     00        2.8  UGM/ M**3          2     M/S          180       DEG
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DAILY AVERAGES SUMMARY REPORT
                                              C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                   *                   *
                                              SITE   20                            *     FINAL DATA    *
                                                                                   *  AS OF 06/JUN/78  *
                                              FEB, 1978                            *                   *
                                                                                   *********************
                                              AEROVIRONMENT INC.


                       DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                      (75% FOR TEMP AND REL HUMIDITY)

                 DAY    WS1       WD1       MIX       STB1       INV       STB2
                       M/S       DEG        M       0=ST1=UN     M       0=ST1=UN
                          10M       10M       0M       50M        0M       200M

                  1        2       165        30         0       160          1
                  2        3       125        30         0       230          1
                  3        3       120        30         0       240          1
                  4        3       130        30         0       160          1
                  5        3       180        30         0       110          1
                  6        2       160         *         *         *          *
                  7        2       135         *         0         *          1
                  8        3       210        30         0         *          1
                  9        4       120         *         0         *          1
                 10        4       125         *         1         *          1
                 11        2       135        30         0       180          1
                 12        2       130        30         0       160          1
                 13        2       145        30         0       130          1
                 14        2       130        30         0       140          1
                 15        2       135        30         0       170          1
                 16        3       200        30         0       170          1
                 17        3       175        30         0       170          1
                 18        3       190        30         0       180          1
                 19        2       125        30         0       130          1
                 20        2       215         *         *         *          *
                 21        2       120        30         0       110          1
                 22        2       170        30         0       110          1
                 23        2       135        30         0       100          1
                 24        3       140        30         0        90          1
                 25        2       125        30         0        70          1
                 26        2       120         *         *         *          *
                 27        2       150         *         *         *          *
                 28        2       130         *         *         *          *
                 29     [  ]     [  ]      [  ]      [  ]      [  ]       [  ]
                 30     [  ]     [  ]      [  ]      [  ]      [  ]       [  ]
                 31     [  ]     [  ]      [  ]      [  ]      [  ]       [  ]

                 AV        2       150        30         0       150          1

      * INDICATES NOT ENOUGH DATA FOR AVERAGE
ADMAR  [04 MAY 78]
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DAILY AVERAGES SUMMARY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC,

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 06/JUN/78   *
*                    *
**********************
```

DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
(75% FOR TEMP AND REL HUMIDITY)

DAY	NOX UGM/M**3	NO2 UGM/M**3	NO UGM/M**3	SO2 UGM/M**3	H2S UGM/M**3	O3 UGM/M**3	THC UGM/M**3	HC UGM/M**3	CH4 UGM/M**3	CO MGM/M**3
1	*	*	*	*	*	*	*	*	*	*
2	*	*	*	*	*	*	*	*	*	*
3	*	*	*	*	*	*	*	*	*	*
4	*	*	0	0	0	81	*	*	*	*
5	*	*	0	0	0	81	*	*	*	*
6	*	*	0	0	0	70	*	*	*	*
7	*	*	0	0	0	64	*	*	*	*
8	*	*	0	0	0	81	*	*	*	*
9	*	*	0	0	0	87	*	*	*	*
10	*	*	0	0	0	82	*	*	*	*
11	*	*	0	0	0	104	*	*	*	*
12	*	*	0	0	0	107	*	*	*	*
13	*	*	0	0	0	113	*	*	*	*
14	*	*	0	0	0	107	*	*	*	*
15	*	*	0	0	0	104	*	*	*	*
16	*	*	0	0	0	99	*	*	*	*
17	*	*	0	0	0	99	*	*	*	*
18	*	*	0	0	0	106	*	*	*	*
19	*	*	*	*	*	*	*	*	*	*
20	*	*	0	10	0	101	*	*	*	*
21	*	*	0	9	0	91	*	*	*	*
22	*	*	0	9	0	96	*	*	*	*
23	*	*	0	10	0	104	*	*	*	*
24	*	*	0	8	0	99	*	*	*	*
25	*	*	0	8	0	99	*	*	*	*
26	*	*	0	3	0	115	*	*	*	*
27	*	*	0	0	0	93	*	*	*	*
28	*	*	0	0	0	108	*	*	*	*
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	*	*	0	2	0	96	*	*	*	*

* INDICATES NOT ENOUGH DATA FOR AVERAGE

ADMAR (04 MAY 78)

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DAILY AVERAGES SUMMARY REPORT
                                                              C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                                   *                   *
                                                              SITE   23                            *     FINAL DATA    *
                                                                                                   *  AS OF 06/JUN/78  *
                                                              FEB, 1978                            *                   *
                                                                                                   *********************
                                                              AEROVIRONMENT INC.


                                          DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                                          (75% FOR TEMP AND REL HUMIDITY)

 DAY    WS2       WD2       WS3       WD3       WS4       WD4       BWS1      BHD1      BVD1      BWS3      BHD3      BVD3
       M/S       DEG       M/S       DEG       M/S       DEG       M/S       DEG       DEG       M/S       DEG       DEG
           10M       10M       30M       30M       60M       60M       10M       10M       10M       60M       60M       60M

   1         *       200         *         *         *         *         *         *         *         *         *         *
   2         4       150         5       180         5       195         *         *         *         *         *         *
   3         3       155         4       165         4       195         *         *         *         *         *         *
   4         1       175         2       170         2       165         *         *         *         *         *         *
   5         2       155         3       150         3       165         *         *         *         *         *         *
   6         3       200         3       195         4       215         *         *         *         *         *         *
   7         3       175         3       180         3       180         *         *         *         *         *         *
   8         3       240         3       230         4       245         *         *         *         *         *         *
   9         3       155         4       150         5       165         *         *         *         *         *         *
  10         5       165         5       160         6       170         *         *         *         *         *         *
  11         3       180         4       175         4       190         *         *         *         *         *         *
  12         2       195         3       200         3       215         *         *         *         *         *         *
  13         2       175         3       175         3       195         *         *         *         *         *         *
  14         2       170         2       220         2       205         *         *         *         *         *         *
  15         2       180         2       185         2       185         *         *         *         *         *         *
  16         2       245         3       255         3       265         *         *         *         *         *         *
  17         2       175         2       205         2       215         *         *         *         2         *         *
  18         2       225         2       205         2       220         *         *         *         *         *         *
  19         1       210         1       225         2       235         *         *         *         *         *         *
  20         2       250         2       260         2       265         *         *         *         *         *         *
  21         1       155         2       155         2       145         *         *         *         *         *         *
  22         1       155         1       180         1       185         *         *         *         *         *         *
  23         2       160         2       140         3       195         *         *         *         *         *         *
  24         2       160         2       175         3       205         *         *         *         *         *         *
  25         4       205         5       200         5       210         *         *         *         *         *         *
  26         4       195         5       195         5       205         *         *         *         *         *         *
  27         5       220         5       210         6       220         *         *         *         *         *         *
  28         2       185         2       205         2       210         *         *         *         *         *         *
  29       [ ]     [   ]       [ ]     [   ]       [ ]     [   ]       [ ]       [ ]       [ ]       [ ]       [ ]       [ ]
  30       [ ]     [   ]       [ ]     [   ]       [ ]     [   ]       [ ]       [ ]       [ ]       [ ]       [ ]       [ ]
  31       [ ]     [   ]       [ ]     [   ]       [ ]     [   ]       [ ]       [ ]       [ ]       [ ]       [ ]       [ ]

  AV         2       185         3       190         3       200         *         *         *         *         *         *

       * INDICATES NOT ENOUGH DATA FOR AVERAGE
ADMAR  (04 MAY 78)
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DAILY AVERAGES SUMMARY REPORT
                                                    C-B OIL SHALE PROJECT, COLORADO      ***********************
                                                                                         *                     *
                                                    SITE   23                            *     FINAL DATA      *
                                                                                         *  AS OF 06/JUN/78    *
                                                    FEB, 1978                            *                     *
                                                                                         ***********************
                                                    AEROVIRONMENT INC.


                               DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                              (75% FOR TEMP AND REL HUMIDITY)

                         DAY    BST1      BST3      BSP1      BSP3      STH2      STH3      STH4
                              DEG       DEG       DEG       DEG       DEG       DEG       DEG
                                   10M       60M       10M       60M       10M       30M       60M


                           1        *         *         *         *         *         *         *
                           2        *         *         *         *         *         *         *
                           3        *         *         *         *         *         *         *
                           4        *         *         *         *         *         *         *
                           5        *         *         *         *         *         *         *
                           6        *         *         *         *         *         *         *
                           7        *         *         *         *         *         *         *
                           8        *         *         *         *         *         *         *
                           9        *         *         *         *         *         *         *
                          10        *         *         *         *         *         *         *
                          11        *         *         *         *         *         *         *
                          12        *         *         *         *         *         *         *
                          13        *         *         *         *         *         *         *
                          14        *         *         *         *         *         *         *
                          15        *         *         *         *         *         *         *
                          16        *         *         *         *         *         *         *
                          17       14         7         0         *         *         *        13
                          18        *         *         *         *         *         *         *
                          19        *         *         *         *         *         *         *
                          20        *         *         *         *         *         *         *
                          21        *         *         *         *         *         *         *
                          22        *         *         *         *         *         *         *
                          23        *         *         *         *         *         *         *
                          24        *         *         *         *         *         *         *
                          25        *         *         *         *         *         *         *
                          26        *         *         *         *         *         *         *
                          27        *         *         *         *         *         *         *
                          28        *         *         *         *         *         *         *
                          29      [ ]       [ ]       [ ]       [ ]       [ ]       [ ]       [ ]
                          30      [ ]       [ ]       [ ]       [ ]       [ ]       [ ]       [ ]
                          31      [ ]       [ ]       [ ]       [ ]       [ ]       [ ]       [ ]

                          AV        *         *         *         *         *         *         *


             * INDICATES NOT ENOUGH DATA FOR AVERAGE
        AQMAR  (04 MAY 78)
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DAILY AVERAGES SUMMARY REPORT

                                        C-B OIL SHALE PROJECT, COLORADO     **********************
                                                                            *                    *
                                        SITE   23                           *     FINAL DATA     *
                                                                            *  AS OF 19/JUL/78   *
                                        FEB, 1978                           *                    *
                                                                            **********************
                                        AEROVIRONMENT INC.


                       DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                      (75% FOR TEMP AND REL HUMIDITY)

          DAY   TEM2     TEM3     TEM4     RH1      BARP     SOLR     DT2
                DEGC     DEGC     DEGC     PER     MM  HG    LY       DEGC
                  10M      30M      60M       1M       0M       0M  60-10M

           1      *        *        *       73        *        *        *
           2      *        *        *       75        *        *      -.3
           3     -2        *        *       74        *        6       .4
           4      0        *        *       59      606       13       .9
           5      2        *        *       54      601        8       .5
           6      1        *        *       79      594       11      -.4
           7     -1        *        *       78      593       13      -.2
           8     -2        *        *       75      593        7       .0
           9     -3        *        *       74      595        6      -.2
          10      2        *        *        *      591        8      -.3
          11     -2        *        *       83      587        5      -.3
          12     -6        *        *       80      592        7      -.2
          13     -6        *        *       72      595       13      -.2
          14     -4        *        *       75      595       10      -.3
          15     -7        *        *       78      594        8       .0
          16     -9        *        *        *      594       12      -.4
          17    -11        *        *        *      598       16      -.2
          18    -10        *        *       73      599       17       .0
          19     -7        *        *       76        *        *      -.5
          20     -5        *        *       85      603        *      -.5
          21     -3        *        *       72      605       23       .4
          22      0        *        *       58      605        *       .7
          23      1        *        *       51      603        *       .6
          24      1        *        *       56      599        *       .6
          25      2        *        *       57      599        *       .0
          26      3        *        *       63      597        *      -.1
          27      1        *        *       74      593        *      -.2
          28      *        *        *       67      596        *       .1
          29   [  ]     [  ]     [  ]     [  ]     [  ]     [  ]     [  ]
          30   [  ]     [  ]     [  ]     [  ]     [  ]     [  ]     [  ]
          31   [  ]     [  ]     [  ]     [  ]     [  ]     [  ]     [  ]

          AV     -3        *        *       70      597       11       .0

     * INDICATES NOT ENOUGH DATA FOR AVERAGE
AQMAR  (04 MAY 78)
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```
DAILY AVERAGES SUMMARY REPORT

                              C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                   *                   *
                              SITE     42                          *     FINAL DATA    *
                                                                   *  AS OF 06/JUN/78  *
                              FEB, 1978                            *                   *
                                                                   *********************
                              AERDVIRONMENT INC.


                   DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                  (75% FOR TEMP AND REL HUMIDITY)

                        DAY    WS1        WD1       TEM1
                             M/S        DEG        DEGC
                                 10M        10M        10M

                          1        2        155        -3
                          2        4        140        -5
                          3        4        135        -3
                          4        2        130        -1
                          5        3        145         0
                          6        3        170         1
                          7        3        170        -2
                          8        3        220        -3
                          9        4        140        -4
                         10        4        165        -2
                         11        3        150        -1
                         12        2        170        -7
                         13        2        145        -6
                         14        *          *         *
                         15        *          *         *
                         16        *          *         *
                         17        *          *         *
                         18        *          *         *
                         19        *          *         *
                         20        *          *         *
                         21        *          *         *
                         22        *          *         *
                         23        *          *         *
                         24        3        160         *
                         25        3        155         1
                         26        4        180         2
                         27        4        185        -1
                         28        2        125        -4
                         29     [  ]       [  ]      [  ]
                         30     [  ]       [  ]      [  ]
                         31     [  ]       [  ]      [  ]

                         AV        3        155         *


      * INDICATES NOT ENOUGH DATA FOR AVERAGE
   ADMAR  [04 MAY 78]
```

DAILY AVERAGES SUMMARY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 56

FEB, 1978

AEROVIRONMENT INC.

****
* FINAL DATA *
* AS OF 06/JUN/78 *
****

DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
(75% FOR TEMP AND REL HUMIDITY)

DAY	WS1 M/S 10M	WD1 DEG 10M	TEM1 DEGC 10M
1	1	165	-6
2	2	125	-5
3	2	115	-4
4	2	135	-5
5	1	140	-2
6	2	155	0
7	1	145	-1
8	2	210	-3
9	2	120	-6
10	2	115	1
11	1	140	-3
12	1	190	-8
13	2	125	*
14	*	*	*
15	2	115	-10
16	2	195	-11
17	2	160	-15
18	2	175	-14
19	1	120	-9
20	1	195	-7
21	2	110	-7
22	2	180	-7
23	2	125	-5
24	2	130	-3
25	2	135	-1
26	2	130	1
27	2	140	-1
28	2	115	-6
29	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]
AV	2	145	-5

* INDICATES NOT ENOUGH DATA FOR AVERAGE

AQMAR (04 MAY 78)

```
VECTORIAL AVERAGE WIND SPEED AND DIRECTION
                     (M/S)      (DEGREES)

                                         C-B OIL SHALE PROJECT, COLORADO       *********************
                                                                               *                   *
                                         SITE   20                             *    FINAL DATA     *
                                                                               *  AS OF 06/JUN/78  *
                                         FEB, 1978                             *                   *
                                                                               *********************
                                         AEROVIRONMENT INC.


                         DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)


                                   DAY   WS1  WD1
                                         10M  10M


                                     1     1  115
                                     2     3  130
                                     3     3  125
                                     4     2  120
                                     5     2  130
                                     6     1  155
                                     7     2  135
                                     8     1  310
                                     9     4  120
                                    10     4  125
                                    11     2  125
                                    12     *    *
                                    13     2  145
                                    14     0   75
                                    15     2  135
                                    16     1  300
                                    17     1  135
                                    18     2  160
                                    19     1  110
                                    20     1  295
                                    21     2  120
                                    22     1  110
                                    23     2  125
                                    24     3  140
                                    25     2  135
                                    26     2  130
                                    27     1  170
                                    28     2  135
                                    29   (  ) (  )
                                    30   (  ) (  )
                                    31   (  ) (  )

                                    AV     2  140


        * INDICATES NOT ENOUGH DATA FOR AVERAGES
AOMVR  (04 MAY 78)
```

VECTORIAL AVERAGE WIND SPEED AND DIRECTION
(M/S) (DEGREES)

C-B OIL SHALE PROJECT, COLORADO

SITE 23

FEB, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*  AS OF 06/JUN/78   *
*                    *
**********************
```

DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)

DAY	WS2 10M	WD2 10M	WS3 30M	WD3 30M	WS4 60M	WD4 60M	BWS1 10M	BHD1 10M	BVD1 10M	BWS3 60M	BHD3 60M	BVD3 60M
1	*	*	*	*	*	*	*	*	*	*	*	*
2	3	185	5	185	5	195	*	*	*	*	*	*
3	2	180	3	175	4	200	*	*	*	*	*	*
4	1	155	1	135	1	160	*	*	*	*	*	*
5	2	160	3	145	3	165	*	*	*	*	*	*
6	3	210	3	200	3	215	*	*	*	*	*	*
7	2	185	3	185	3	190	*	*	*	*	*	*
8	2	275	2	260	2	265	*	*	*	*	*	*
9	3	160	4	155	4	170	*	*	*	*	*	*
10	5	170	5	165	6	175	*	*	*	*	*	*
11	3	180	3	180	4	190	*	*	*	*	*	*
12	1	200	2	195	2	215	*	*	*	*	*	*
13	2	190	2	185	3	200	*	*	*	*	*	*
14	1	335	1	335	1	325	*	*	*	*	*	*
15	2	205	2	200	1	205	*	*	*	*	*	*
16	2	330	2	325	2	330	*	*	*	*	*	*
17	1	345	1	340	1	340	*	*	*	*	*	*
18	1	270	1	270	1	260	*	*	*	*	*	*
19	0	270	0	270	1	280	*	*	*	*	*	*
20	1	315	2	310	2	315	*	*	*	*	*	*
21	1	175	1	160	1	175	*	*	*	*	*	*
22	0	225	0	5	0	10	*	*	*	*	*	*
23	1	170	2	165	2	195	*	*	*	*	*	*
24	2	195	2	190	3	205	*	*	*	*	*	*
25	4	210	4	205	5	210	*	*	*	*	*	*
26	4	200	5	195	5	205	*	*	*	*	*	*
27	4	220	5	210	5	215	*	*	*	*	*	*
28	1	205	2	200	2	205	*	*	*	*	*	*
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	2	185	2	185	2	200	*	*	*	*	*	*

* INDICATES NOT ENOUGH DATA FOR AVERAGES
AOMVR (04 MAY 78)

VECTORIAL AVERAGE WIND SPEED AND DIRECTION
(M/S) (DEGREES)

C-B OIL SHALE PROJECT, COLORADO

SITE 42

FEB, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 06/JUN/78

DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)

DAY	WS1 10M	WD1 10M
1	1	150
2	3	155
3	2	150
4	2	110
5	2	145
6	2	190
7	2	175
8	2	295
9	3	150
10	3	160
11	2	150
12	1	175
13	1	160
14	*	*
15	*	*
16	*	*
17	*	*
18	*	*
19	*	*
20	*	*
21	*	*
22	*	*
23	*	*
24	2	185
25	2	185
26	3	195
27	3	210
28	2	140
29	[ ]	[ ]
30	[ ]	[ ]
31	[ ]	[ ]
AV	2	160

* INDICATES NOT ENOUGH DATA FOR AVERAGES
AQMVR (04 MAY 78)

```
VECTORIAL AVERAGE WIND SPEED AND DIRECTION
                       (M/S)      (DEGREES)

                                         C-B OIL SHALE PROJECT, COLORADO        ********************
                                                                                *                  *
                                         SITE    56                             *    FINAL DATA    *
                                                                                *  AS OF 06/JUN/78 *
                                         FEB, 1978                              *                  *
                                                                                ********************
                                         AEROVIRONMENT INC.


                    DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)


                               DAY  WS1  WD1
                                    10M  10M


                                 1    0  125
                                 2    2  130
                                 3    2  110
                                 4    1  130
                                 5    1  120
                                 6    1  160
                                 7    1  145
                                 8    1  305
                                 9    2  120
                                10    2  115
                                11    1  125
                                12    0  190
                                13    1  130
                                14    *    *
                                15    1  115
                                16    1  320
                                17    0   85
                                18    0  140
                                19    1   90
                                20    0  345
                                21    1  105
                                22    1  145
                                23    2  125
                                24    2  130
                                25    2  140
                                26    2  135
                                27    2  145
                                28    1  115
                                29  [  ] [  ]
                                30  [  ] [  ]
                                31  [  ] [  ]

                                AV    1  135


       * INDICATES NOT ENOUGH DATA FOR AVERAGES
ADMVR  [04 MAY 78]
```

DATA REPORT

Final Submission

AIR QUALITY DATA
PROTOTYPE OIL SHALE LEASE TRACT C-b

Volume I

March 1978 Data

Submitted June 12, 1978

AeroVironment Inc.
145 Vista Avenue
Pasadena, California 91107

PREFACE

This volume is the final submission acquired during the air quality/ meteorology portions of the monitoring program for oil shale tract C-b. The period covered runs from 1 March through 31 March 1978.

This report is divided into two volumes. Volume I contains all of the basic data (hourly averages). Volume II contains all of the computer analysis reports.

TABLE OF CONTENTS

SECTION 1.0 - General

1.1 Introduction
1.2 Description of Instrument Systems

  1.2.1 Air Quality Instrumentation
  1.2.2 Air Quality Equipment Calibration Procedure
  1.2.3 Data Acquisition System
  1.2.4 Meteorological Instruments

1.3 Data Description

  1.3.1 Description of Data Tables
  1.3.2 Data Acceptance Algorithm
  1.3.3 Data Precision and Lower Detection Limit
  1.3.4 Data Listing

1.4 Descriptive Regional Meteorological Summary

SECTION 2.0 - Meteorology

2.1 Hourly Average Data Tabulations for All Sites in Order by Site Number

  2.1.1 Wind Speed, (WS2-4), 10 m, 30 m, 60 m
  2.1.2 Wind Direction (WD2-4), 10 m, 30 m, 60 m
  2.1.3 Temperature (T2-4), 10 m, 30 m, 60 m
  2.1.4 Lapse Rate (Delta T, DT2) 60 m-10 m
  2.1.5 Relative Humidity (RH1), 10 m
  2.1.6 Barometric Pressure (BARP)
  2.1.7 Solar Radiation (SOLR)
  2.1.8 Mixing Height (MIX)
  2.1.9 Inversion Height (INV)
  2.1.10 Stability Type (STB1, 2) 50 m, 200 m

2.2 Miscellaneous Data

  2.2.1 Double Theodolite (Wind Speed, Wind Direction, and Temperature versus Altitude)

SECTION 3.0 - Air Quality

3.1 Hourly Average Data Tabulations for All Sites in Order by Site Number

  3.1.1 Hydrogen Sulfide (H_2S)
  3.1.2 Sulfur Dioxide (SO_2)^2
  3.1.3 Total Hydrocarbons (THC), expressed as $\mu g/m^3$ of CH_4

3.1.4 Methane (CH_4)
3.1.5 Hydrocarbons (methane-reduced) ($HC = THC - CH_4$), expressed as $\mu g/m^3$ of CH_4
3.1.6 Carbon Monoxide (CO)
3.1.7 Nitrogen Oxides (NO_x), expressed as $\mu g/m^3$ of NO_2
3.1.8 Nitric Oxide, NO
3.1.9 Nitrogen Dioxide (NO_2)
3.1.10 Ozone (O_3)

3.2 Miscellaneous Data

3.2.1 High Volume Sampler, Suspended Particulates

Not all sites measure all of these parameters.

SECTION 1.0

GENERAL

1.0 GENERAL

1.1 Introduction

AeroVironment Inc. is performing an air quality and meteorological measurement program on the C-b shale oil tract for C-b Shale Oil Venture. Various parameters of air quality and meteorological data are collected at a network of sites. A listing of data collected during this month is contained in Section 1.3.

1.2 Description of Instrument Systems

1.2.1 Air Quality Instrumentation

The ambient air sample is drawn in through a glass cane and manifold supplied by the Ace Glass Company. The system has a 25 mm diameter, through which an air flow is provided by an air pump rated at 60 cfm. The manifold has sampling ports to which 1/4" teflon lines are connected to the air quality instruments. All joints in the sampling system are secured by O-ring compression fittings. The following are the air quality instruments used:

- Oxides of Nitrogen

Oxides of nitrogen are measured by use of a Monitor Labs Model 8440E analyzer. Operating on the chemiluminescent principle, this dual-channel analyzer continuously monitored both NO_x and NO. The NO_2 value is calculated by the off-site computer by subtracting the NO value from the NO_x value. Designated by the EPA as a reference instrument, it has a lower detection limit of 2 parts per billion (ppb) and a linearity of ± 1%.

- Sulfur Dioxide

Sulfur dioxide is continuously measured with a Meloy Model SA185-2A sulfur analyzer equipped with a Meloy Model H_2S-1 hydrogen sulfide

scrubber. This instrument utilizes the principle of flame photometric detection (FPD) for operation. It is designated by EPA as an equivalent instrument. The instrument has a lower detection limit of 5 ppb and a linearity of ± 1%.

- Hydrogen Sulfide

Hydrogen sulfide is monitored continuously by using a Meloy Model SA185-2 equipped with a Meloy Model SO_x-1 sulfur dioxide scrubber. It also utilizes the FPD principle, and its lower detection limit is 5 ppb and linearity ± 1%.

- Ozone

Ozone is measured continuously by using a Meloy Model OA350 analyzer. Based on the chemiluminescent principle, it has a lower detection limit of 1 ppb and a linearity of ± 1%.

- Hydrocarbons and Carbon Monoxide

Total hydrocarbons, methane, and carbon monoxide are monitored by use of a Bendix Model 8200 analyzer. This instrument utilizes the gas chromatography-flame ionization detection principle, and measures each parameter once every five minutes. The non-methane hydrocarbon value is obtained by subtracting the methane value from the total hydrocarbon value. This instrument has a lower detection limit of 100 ppb for all three components.

- Total Suspended Particulates

A General Metal Works Model 2000 high volume sampler and glass fiber filter paper are employed to collect the ambient air total suspended particulates. The high volume sampler is turned on and off by a timer, once every three days, from midnight to midnight. Thus, a 24-hour integrated sample is collected.

The glass fiber filter paper is conditioned in a humidity controlled chamber for at least 24 hours before it is weighed. This procedure applies to both before and after it is exposed to the ambient air. The weighing is carried out by using a Torbal Model EA-1-AP balance.

A Dickon recorder is used to record the high volume sampling flowrate throughout the 24-hour sampling period.

1.2.2 Air Quality Equipment Calibration Procedures

o Daily Zero and Span Check

A Meloy Model RAD-1 calibration unit is used to perform the daily zero and span check on the NO/NO_x, SO_2, and H_2S analyzers. This instrument provides a zero air supply, SO_2 span gas from an SO_2 permeation tube, and NO span gas obtained by precisely diluting bottled NO span gas. The zero and span checks of all instruments are manually performed once a day. Each instrument is first switched to zero and the zero value is recorded on the multipoint chart recorders. After a stable zero signal has been obtained, a span gas is supplied to each channel until a stable span value has been reached. This value is recorded on the multipoint chart recorders. Both the zero and span values should be within the tolerance limit specified; otherwise, the analyzer is recalibrated. The instruments are then returned to the monitor mode.

The bottled NO span gas used for this purpose was obtained from Precision Gas Products. The SO_2 permeation tubes were manufactured by Metronics Associates, Inc.

The Model OA350 ozone analyzer has its own calibration system, which provides a zero check and a span check. The zero and span check is also done manually once a day.

The Model 8200 total hydrocarbon, methane, and carbon monoxide analyzer is calibrated with undiluted span gas obtained from Scott-Merrin.

This span gas contains methane and carbon monoxide in air; the methane being used to calibrate both the total hydrocarbon channel and the methane channel. The Model 8200 is zeroed with air from a Bendix Model 8834 zero air unit. In addition, the instrument is electronically re-zeroed at the start of every five-minute cycle.

- Multi-Point Calibration

Monthly multi-point calibrations of all air quality instruments are performed. The purpose of the monthly calibration is two-fold: 1) to check the instrument linearity, and 2) to assign the values of the on-site calibration sources so that they are NBS traceable.

The air quality instruments for SO_2, H_2S, O_3, and NO/NO_x are dynamically calibrated by use of a Monitor Labs Model 8500 Dynamic Calibration System. This calibrator utilizes the permeation principle for SO_2 and H_2S, ozonation of air for ozone, and dilution of concentrated NO to ambient level NO, and can perform gas phase titration of NO and O_3 for NO_2 calibrations. It is capable of producing stable concentrations for the purpose of calibration of the instruments. For the $THC/CH_4/CO$ instruments, three cylinders of gases containing approximately 0, 4, and 8 ppm of CH_4 and CO are used to calibrate the analyzers.

The calibrator's SO_2 permeation tube output is calibrated quarterly by using the EPA-prescribed pararosaniline method (Federal Register, Vol. 36, No. 84, Part II, April 30, 1971); H_2S output by the cadmium hydroxide stractan method (Intersociety Committee, American Public Health Association, Washington, D.C., 1972); and O_3 output by the EPA-prescribed 1% neutral buffered potassium iodide (NBKI) method (Federal Register, ibid). The concentrated NO cylinder used (~ 100 ppm) is NBS traceable, and the traceability is maintained by re-analyzing the cylinder once every six months by using an NBS cylinder. The dilution system of the calibrator is checked once every three months by using an NBS traceable test meter. The NO dilution output from the calibrator is further calibrated quarterly by use of the Saltzman method (Intersocity Committee, ibid).

Cylinders used to calibrate THC/CH_4/CO instruments are NBS traceable. The traceability is maintained by re-analyzing the cylinders once every six months by using an NBS cylinder.

The high volume sampler is calibrated monthly by use of a set of resistance plates which, in turn, is calibrated by using an NBS traceable Roots Meter once a year. The balance used for weighing glass fiber filters is calibrated quarterly by using a set of NBS traceable weights.

1.2.3 Data Acquisition System

Esterline Angus Model E1124E multipoint chart recorders are used as primary recording means to monitor data. The EA chart recorder logs data at 2-1/2-minute intervals. The data reflects the real time value at that instant.

1.2.4 Meteorological Instruments

- Site 023

The meteorological tower itself is a 60-meter Rohn Model 80 Guyed Tower, designed for 40 pounds per square foot wind load with 1/2" of radial ice per EIA Standard RS-222-B, to support four levels of meteorological equipment. The material consists of tower sections with a tapered base, three retractable booms 12 feet long, three outside work platforms, an inside ladder for climbing, two base ground kits, and one anchor ground kit. The cable-type Safety Climbing Device consists of a cable and attachment mechanisms with a locking sleeve and safety belt. The tower is lighted and painted according to FAA specification.

All instrumentation, except at the ground level, is mounted at the end of 12-foot retractable booms. These booms are 3-inch box beams which are on rollers and can be retracted to the instrument platforms for instrument maintenance.

The tower has instrumentation at three levels: 10 m, 30 m, and 60 m. There were wind speed and direction sensors at all three levels, and temperature, σ_θ and σ_ϕ at the 10 m and 60 m levels. Relative humidity, solar radiation and barometric pressure sensors are at the ground level. Temperature difference thermistors and their associated circuitry took lapse rate measurements for the 10 m to 60 m layer.

Wind Speed and Direction

The wind direction and speed apparatus used at each measurement level of the tower is the Model 1074-2 wind sensor by Meteorological Research, Inc. (MRI). This sensor has a 540° potentiometer for wind direction and a light chopper for wind speed. This sensor is rugged, with an all-weather cup and damped vane assembly. The wind sensors on the tower have been specially treated with a black paint which will promote warming of the exposed surfaces of the sensor and thereby reduce ice and snow accumulations on the moving parts of the apparatus. The specifications on the Model 1074-2 are as follows:

Wind Speed

- Starting Threshold: 0.75 mph.
- Response Distance: 18 feet (63% recovery)
- Flow Coefficient: 7.9 feet/Revolution
- Precision: $\pm$ 0.4 mph or 1% (whichever is greater)

Wind Direction

- Starting Threshold: 0.75 mph
- Delay Distance: 4 feet (50% recovery)
- Damping Ratio: 0.5 to 0.6
- Precision (540° system): $\pm$ 1%
- Range: 0° to 540°

Temperature

The temperature sensors are mounted within a power-aspirated radiation shield at each tower level. The sensors are of the Model 840 by MRI. The aspirated shielded housing is designed to provide maximum radiation protection to the sensor. The temperature sensor provides a linear resistance change with an air temperature change. The specifications on the sensing elements are as follows:

- Precision: ± 0.1°C
- Range: -50°C to +50°C

Delta Temperature

Measurements of temperature differences (ΔT) are taken for the 10 m to 60 m layer by using the MRI Model 840 systems. Both of the ΔT thermistors are mounted within power-aspirated radiation shields. The specifications on the ΔT equipment are as follows:

- Precision: ± 0.2°C
- Range of ΔT Circuit: -5°C to +5°C

Relative Humidity

The relative humidity is monitored by using a WeatherMeasure H321–S hair hygrograph. It uses the time-tested human hair bundle as the sensor for relative humidity. The precision and range are as follows:

- Precision: ± 1% from 20% to 80%; ± 3% at extremes
- Range: 0 to 100%

Barometric Pressure

The barometer is the B242 Analog Output Barometer by Weather-Measure. This barometer provides an output voltage that is linearly proportional to pressure. The specifications on the instrument are as follows:

- Precision: ± 1 mm Hg
- Range: 550-627 mm Hg

Solar Radiation

The pyranometer at the site is the Eppley Precision Spectral Pyranometer. This instrument is used for the measurement of sun and sky radiation totally or in defined wavelength bands. The pyranometer is levelled and mounted atop a wooden stand 1 meter from the ground surface. Care has been taken to eliminate the effects from all outside influences, such as reflection or shadows, on the pyranometer. The instrument characteristics are as follows:

- Precision: ± 0.05 cal/cm^2/min
- Range: 0-2 cal/cm^2/min

- Site 020

Wind Speed and Direction

The wind speed and direction apparatus used is the Model W1034 Low Threshold Recording Wind System by WeatherMeasure. The specifications are as follows:

Wind Speed

- Starting Threshold: 0.6 mph

- Distant Constant: 5 feet
- Precision: ± 0.2 mph or 1% (whichever is greater)

Wind Direction

- Starting Threshold: 0.75 mph
- Distance Constant: 3.5 feet
- Precision: ± 1° or 0.5% (whichever is greater)

Temperature

Same as described under Site 023, Temperature.

Mixing Height, Inversion Height, and Stability Type

An AeroVironment Model 300A acoustic radar is employed for the continuous measurement of the atmospheric mixing height, inversion height, and stability type. An acoustic enclosure is used to surround the antenna and thereby reduce any spurious noise received in the antenna side lobes. The specifications of the acoustic sounder are as follows:

- Precision: ± 10 m
- Range: 30-500 m

A value of "OS" on the data sheets indicates that the mixing height is at least 500 meters (the full scale of the instrument).

- Sites 042 and 056

Wind Speed and Direction and Temperature

The wind speed, wind direction, and temperature equipment employed is the Model 1071 Mechanical Weather Station manufactured by Meteorology Research. The equipment specifications are as follows:

Wind Speed

- Starting Threshold 0.75 mph
- Response distance: 18 ft (63% recovery)
- Flow Coefficient: 7.9 ft/revolution
- Precision: ± 2%

Wind Direction

- Starting Threshold: 0.75 mph
- Delay Distance: 4 ft (50% recovery)
- Damping Ratio: 0.5 to 0.6
- Precision: ± 1% of full scale
- Range: 0° to 540°

Temperature

- Precision: ± 2°C
- Range: -35°C to 49°C

- Miscellaneous

Upper Air Wind Speed and Direction, and Temperature

The upper air wind speed and direction as a function of altitude are measured by tracking a pilot balloon by use of the double-theodolite technique. The theodolites used are manufactured by Warren-Knight. The specifications are as follows:

- Precision: ± 0.1° (elevation)
  ± 0.1° (azimuth)
- Range: 0-90° (elevation)
  0-360° (azimuth)

The upper air temperature as a function of altitude is obtained by attaching a temperature-sonde to a pilot balloon, and the signal transmitted from the temperature-sonde is monitored by using a radio receiver. The temperature-sonde is manufactured by Aeromet. The specifications are as follows:

- Precision: ± 0.4°C (-40 to -5°C)
  ± 0.2°C (-5 to 80°C)
- Range: -40 to +80°C

The radio receiver is also manufactured by Aeromet. Its specifications are as follows:

- Precision: ± 0.2°C
- Range: -50 to +50°C

- Calibration

Calibration of meteorological equipment is done off-site. The wind sensors are calibrated by use of an NBS traceable wind tunnel, the temperature sensors by use of an NBS traceable thermometer, and the pressure sensors by use of an NBS traceable mercury barometer. The relative humidity sensor is calibrated by using a sling psychrometer.

Daily check of the meteorological equipment is performed by comparing the monitored data with that of the local weather service when applicable. Also, the data obtained from the different levels of the 60-meter tower is compared for consistency check.

1.3 Data Description

1.3.1 Description of Data Tables

The data tabulations contain average values for each day, and the peak hourly average for the day. Along the bottom, the average for each hour, averaged over the month, is compiled. For these particular averages, there is no minimum data requirement (those averages are contained in Volume II). If a substantial amount of data is missing for any reason, the averages would be biased. Air quality is given in $\mu g/m^3$ usually, with values for NO_x computed on the basis of the molecular weight of NO_2, and those for HC and THC based on the molecular weight for CH_4.

On the wind direction sheets, "PV" and "PREV" indicate prevailing wind direction divided into 16 sectors with a "1" indicating a prevailing direction between 348.5 and 11.0 degrees, a "2" corresponding to 11.5 to 34.0 degrees, and so forth. (i.e., a "1" indicates wind from the 22.5° sector centered on N, a "2" indicates winds generally from the NNE, and "3" from the NE, etc.

Symbols used on the data sheets are:

CA	Calibration
MT	Maintenance (changing paper, tape, filters)
FO	Flame out (on the gas chromatographs)
IM	Instrument malfunction
PF	Power failure (generator failure, power outages)
RF	Recording system failure (chart jams, runs out, tape cassette fails, on-site computer goes down)
LI	Local interference (Car nearby, contamination by generator)
OS	Off scale (at top of chart data value greater than range of instrument)
SE	Special experiment (instrument off-line for bag sample analysis or removed for special measurements in area)
VA	Variable wind direction
IN	Interference (CO_2 interference on sulfur data, SO_2 interference in oxidant readings)
NV	Not visible (data not visible, within range of instrument/recorder data presumed monitored)

See the attached example sheets.

1.3.2 Data Acceptance Algorithm

The EA chart recorder logs data once every 2-1/2 minutes giving about 24 values per hour. Strip chart data is considered to represent the hour if more than 30 minutes of the record is valid

Data collected in the first 15 minutes after calibration is generally discarded. Data is considered erroneous if any of the status indication or the station log suggests instrument malfunctioning. In addition, air quality data collected in the first 15 minutes after a brief power outage (less than 10 minutes), in the first hour after a medium duration outage (up to one hour), or in the first four hours after longer outages, will be discarded as unreliable. Any anomalous data reflecting signal spikes or dropouts with a response rate faster than ascribable to atmospheric phenomena (e.g., a tripling of NO_x levels from one scan to the next, followed by a return to the old level on the succeeding scan) will be deleted as an artifice caused by the system.

As an additional check, the calibrated data is also screened manually. First, data is scanned to detect extreme values. When a spurious value is located, it will be checked for its validity. In all cases when invalidated data is deleted, a record of these deletions is maintained. Only the validated data will be reported.

1.3.3 Data Precision and Lower Detection Limit

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
Air Quality				
SO_2	Meloy SA185-2A	10 $\mu g/m^3$	15 $\mu g/m^3$	15 $\mu g/m^3$
H_2S	Meloy SA185-2	6 $\mu g/m^3$	6 $\mu g/m^3$	6 $\mu g/m^3$
NO	Monitor Labs 8440E	2 $\mu g/m^3$	5 $\mu g/m^3$	5 $\mu g/m^3$
NO_x	Monitor Labs 8400E	4 $\mu g/m^3$	5 $\mu g/m^3$	5 $\mu g/m^3$
NO_2	NO_x - NO	4 $\mu g/m^3$	6 $\mu g/m^3$	6 $\mu g/m^3$
THC	Bendix 8200	70 $\mu g/m^3$	70 $\mu g/m^3$	70 $\mu g/m^3$
CH_4	Bendix 8200	70 $\mu g/m^3$	70 $\mu g/m^3$	70 $\mu g/m^3$
NMHC	THC - CH_4	70 $\mu g/m^3$	90 $\mu g/m^3$	90 $\mu g/m^3$
CO	Bendix 8200	0.1 mg/m^3	0.1 mg/m^3	0.1 mg/m^3
O_3	Meloy OA 350-2	2 $\mu g/m^3$	20 $\mu g/m^3$	20 $\mu g/m^3$
TSP	GMWC-2000H	0.5 $\mu g/m^3$	6% or 1 $\mu g/m^3$*	1 $\mu g/m^3$
Meteorology				
Wind Speed	MRI 1074-2 (Site 023, 10m, 30m, 60m)	0.5 m/s	1% or 1 m/s*	1 m/s
	MRI 1071 (Site 042, 056)	0.5 m/s	2% or 1 m/s*	1 m/s
	Weathermeasure W1034 (Site 020)	0.5 m/s	1% or 1 m/s*	1 m/s
Wind Direction	MRI 1074-2 (Site 023, 10m,30m,60m)	N/A	1%	N/A
	MRI 1071 (Site 042, 056)	N/A	5°	N/A

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
Meteorology (Cont'd)				
Wind Direction	Weathermeasure W1034 (Site 020)	N/A	1°	N/A
Temperature	MRI 840 (site 023)	-50°C	1°C	-50°C
	MRI 1071 (Site 042,056)	-35°C	1°C	-35°C
Delta Temperature	MRI 840	N/A	0.2°C	N/A
Relative Humidity	Weathermeasure H324-S	3%	1% (20-80%) 3% (at extremes)	3%
Barometric Pressure	Weathermeasure B 242	462 mm Hg	1 mm Hg	462 mm Hg
Solar Radiation	Eppley Spectral Pyranometer	0.05 cal/cm^2/min	0.05 cal/cm^2/min	0.05 cal/cm^2/min
Mixing Height Inversion Height Stability Type	AV 300A Acoustic Radar	30 m	10 m	30 m

*whichever is greater

1.3.4 AV Nomenclature for Components

Abbreviation (alphabetical order)	Component
BARP	Barometric Pressure
CH4	Methane
CO	Carbon Monoxide
DT2	Delta T#2 (Temperature at 60 m - Temperature at 10 m)
HC	Hydrocarbons (corrected for methane)
H2S	Hydrogen Sulfide
INV	Invension Height
MIX	Mixing Height
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOX	Oxides of Nitrogen
O3	Ozone
PART	Particulates (24 hour average)
RH1	Relative Humidity at level 1 (1 m/3 ft.)
SOLR	Solar Radiation (sky only)
SO2	Sulfur Dioxide
STB1	Stability Type at level 1 (50 m)
STB2	Stability Type at level 2 (200 m)
TEM2	Temperature at level 2 (10 m/30 ft.)
TEM3	Temperature at level 3 (30 m/100 ft.)
TEM4	Temperature at level 4 (60 m/200 ft.)
THC	Total Hydrocarbons
WD2	Wind Direction at level 2 (10 m/30 ft.)
WD3	Wind Direction at level 3 (30 m/100 ft.)
WD4	Wind Direction at level 4 (60 m/200 ft.)
WS2	Wind Speed at level 2 (10 m/30 ft.)
WS3	Wind Speed at level 3 (30 m/100 ft.)
WS4	Wind Speed at level 4 (60 m/200 ft.)

■ = Final Output

1.3.4 Final Data Summary Sheet

Project C-b Shale
Date 176

	1977				1978											
	SEP	OCT	NOV	DEC	JAN.	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SITE 020							■									
WS1 (10 m)							■									
WD1 (10 m)							■									
MIX							■									
INV							■									
STAB1 (50 m)							■									
STAB2 (200m)							■									
PART							■									
SITE 023																
WS2 (10 m)							■									
WS3 (30 m)							■									
WS4 (60 m)							■									
WD2 (10 m)							■									
WD3 (30m)							■									
WD4 (60 m)							■									
TEM2 (10m)							■									
TEM3 (30m)							■									
TEM4 (60m)							■									
DT2 (60-10 m)							■									
RH1 (1 m)							■									
BARP							■									
EVAP																
SOLR							■									
NO							■									
NO2							■									
NOX							■									
O3							■									
SO2							■									
H2S							■									
CO							■									
CH4							■									
HC							■									
THC							■									
PART							■									
PIBAL							■									
SITE 042																
WS1 (10 m)							■									
WD1 (10 m)							■									
PART							■									
TEMP							■									

■ = Final Output

Final Data Summary Sheet

Project C-b Shale
Date 176

	1977				1978											
	SEP	OCT	NOV	DEC	JAN.	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SITE 056																
WS1 (10 m)							■									
WD1 (10 m)							■									
PART							■									
TEMP							■									

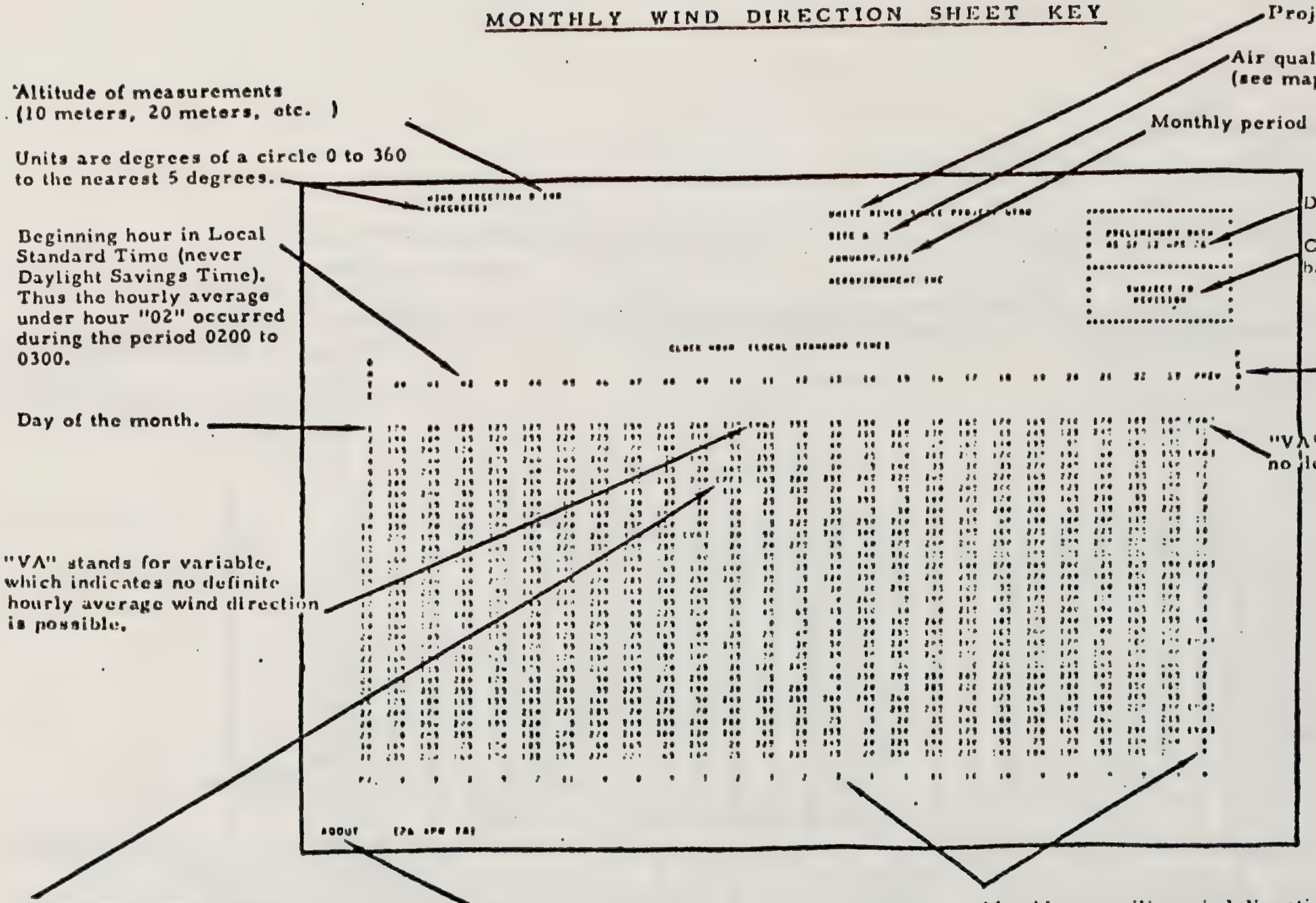
1.4 Descriptive Regional Meteorological Summary

March 1978

March continued the pattern of storminess that had been established two months earlier. Precipitation was reported somewhere in the area at least half of the month with moisture amounts above normal. The tract area was right in line of the frontal passages, and was likely to receive good amounts of moisture.

Temperatures were above normal for the month. When a large anticyclone pattern established itself over the western part of the United States during the last week in March temperatures over 70° F occurred on several days.

MONTHLY WIND DIRECTION SHEET KEY



Project location

Air quality site number. (see map for location)

Monthly period which the data covers.

Altitude of measurements (10 meters, 20 meters, etc.)

Units are degrees of a circle 0 to 360 to the nearest 5 degrees.

Date that the data was printed.

Changes may still be made to the data, based on later inputs.

Beginning hour in Local Standard Time (never Daylight Savings Time). Thus the hourly average under hour "02" occurred during the period 0200 to 0300.

Peak column is not used

Day of the month.

"VA" stands for variable, which indicates no definite prevailing wind direction.

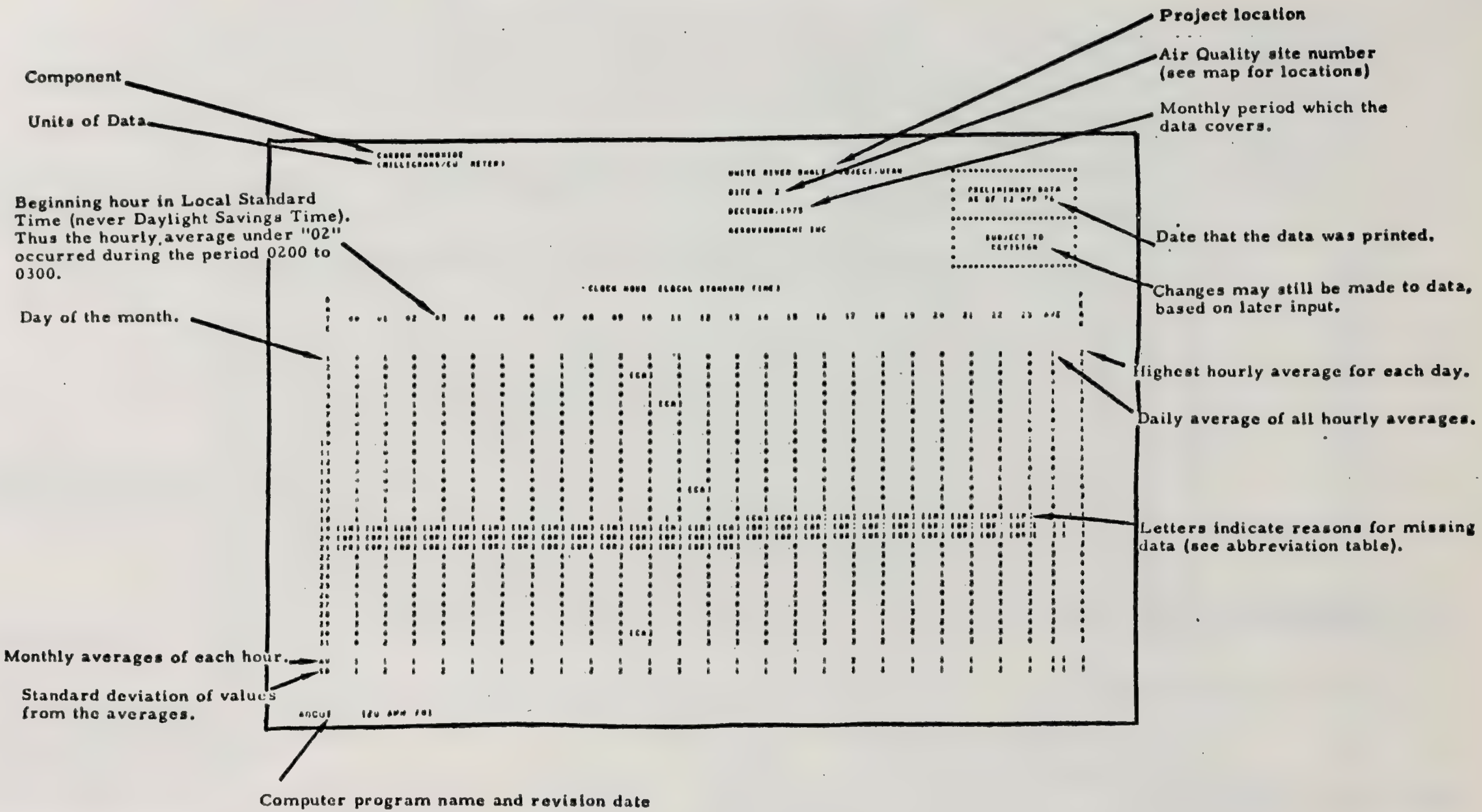
"VA" stands for variable, which indicates no definite hourly average wind direction is possible.

Malfunction code indicates reason for missing data (see abbreviation table).

Computer program name and revision date

Monthly prevailing wind direction is divided into 16 sectors. Sector "1" indicates a prevailing direction between 348.5 and 11.0 degrees (22.5 degree sector) centered on North, Sector "2" corresponds to 11.5 to 34.0 degrees, centered on the NNE, etc.

MONTHLY COMPONENT SHEET KEY



Project location

Air Quality site number (see map for locations)

Monthly period which the data covers.

Date that the data was printed.

Changes may still be made to data, based on later input.

Highest hourly average for each day.

Daily average of all hourly averages.

Letters indicate reasons for missing data (see abbreviation table).

Component

Units of Data

Beginning hour in Local Standard Time (never Daylight Savings Time). Thus the hourly average under "02" occurred during the period 0200 to 0300.

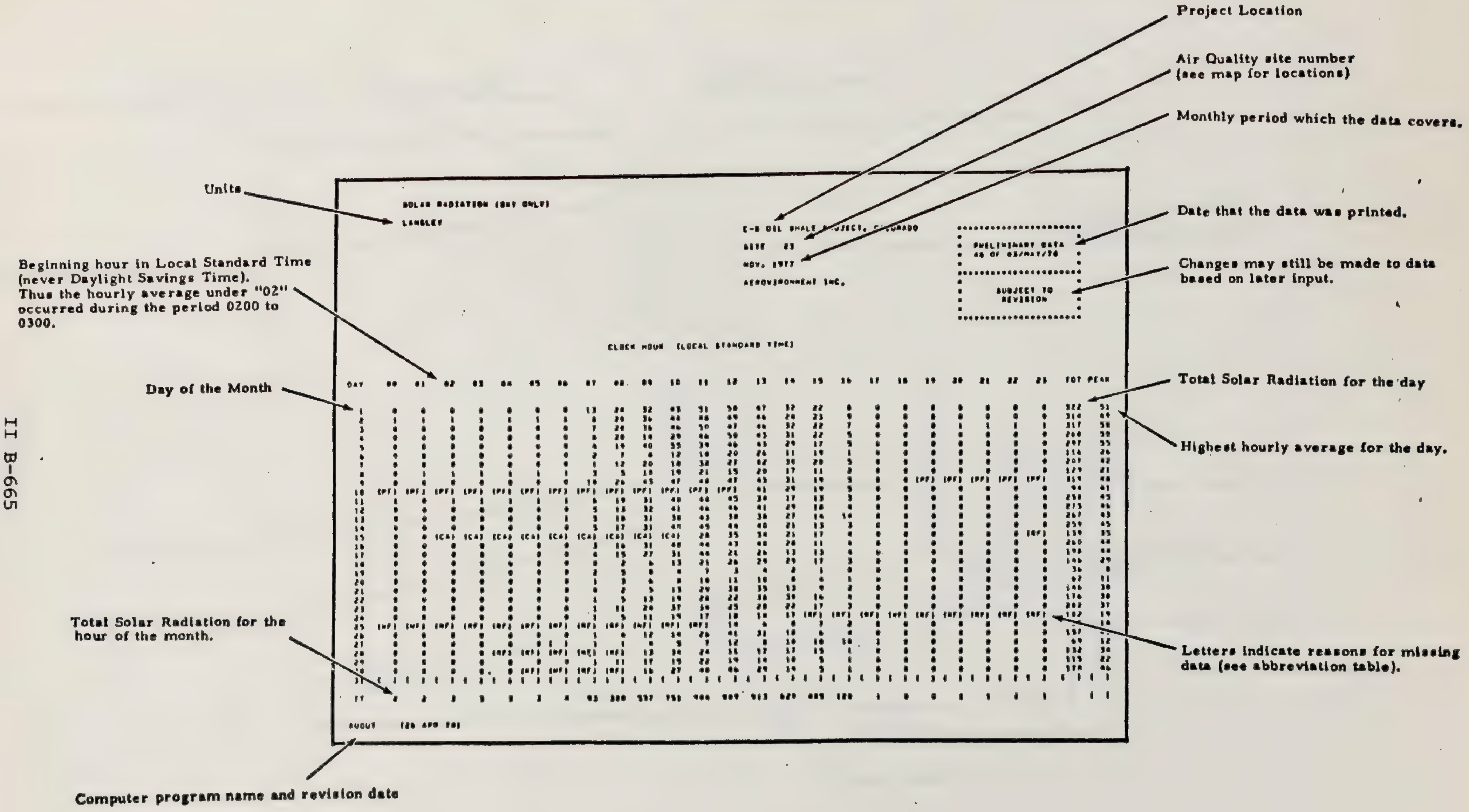
Day of the month.

Monthly averages of each hour.

Standard deviation of values from the averages.

Computer program name and revision date

MONTHLY SOLAR RADIATION SHEET KEY


SOLAR RADIATION (DAY ONLY)
LANGLEY
C-B OIL SHALE PROJECT, COLORADO
SITE 23
NOV, 1977
AEROVIRONMENT INC.
PRELIMINARY DATA AS OF 03/MAY/78
SUBJECT TO REVISION
CLOCK HOUR (LOCAL STANDARD TIME)
DAY
TOT
PEAK

Project Location

Air Quality site number (see map for locations)

Monthly period which the data covers.

Date that the data was printed.

Changes may still be made to data based on later input.

Total Solar Radiation for the day

Highest hourly average for the day.

Letters indicate reasons for missing data (see abbreviation table).

Units

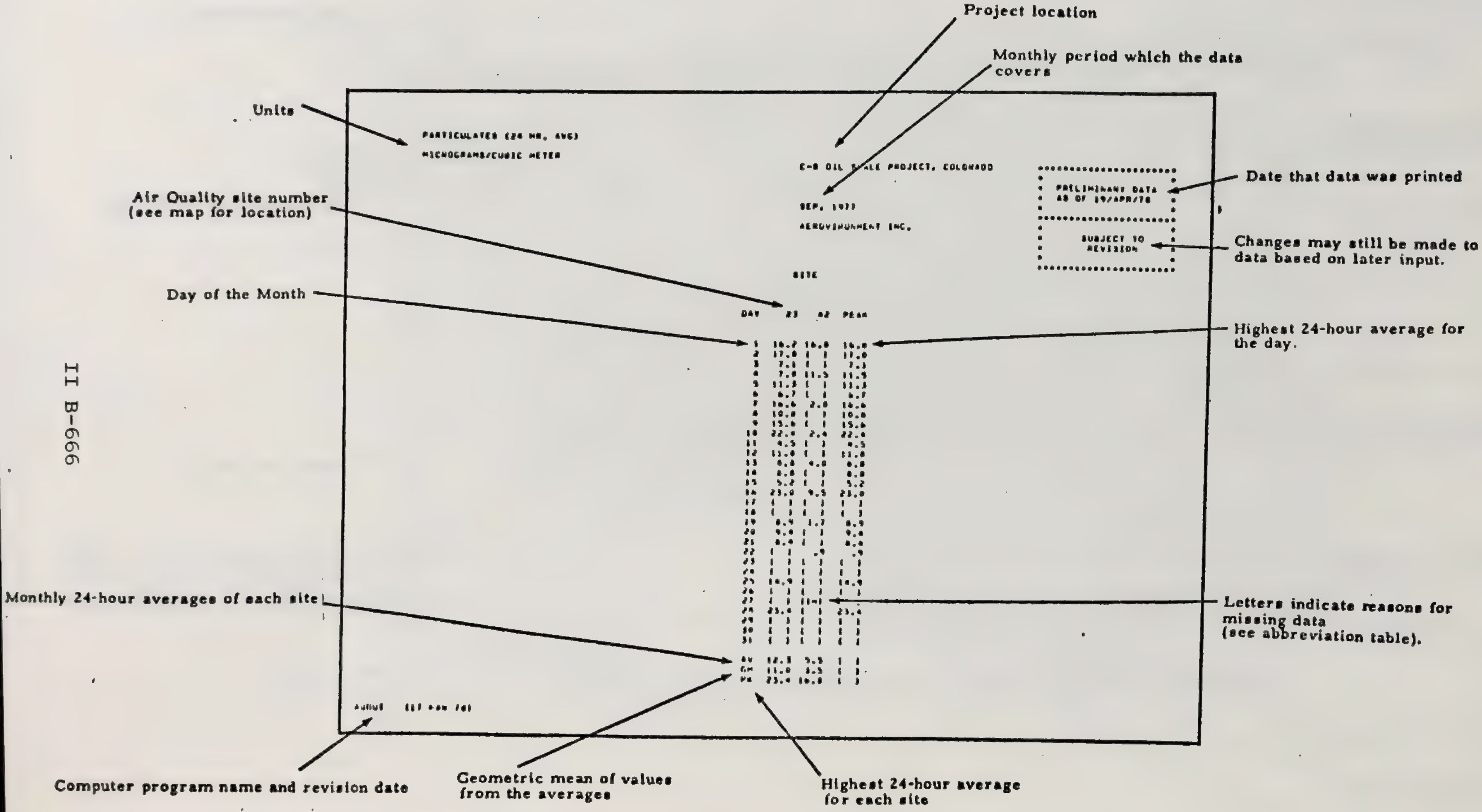
Beginning hour in Local Standard Time (never Daylight Savings Time). Thus the hourly average under "02" occurred during the period 0200 to 0300.

Day of the Month

Total Solar Radiation for the hour of the month.

Computer program name and revision date

MONTHLY PARTICULATES SHEET KEY


Project location
Monthly period which the data covers
Units
PARTICULATES (24 HR, AVG)
MICROGRAMS/CUBIC METER
C-B OIL SHALE PROJECT, COLORADO
SEP, 1977
AEROVIRONMENT INC.
PRELIMINARY DATA AS OF 19/APR/78
SUBJECT TO REVISION
Date that data was printed
Changes may still be made to data based on later input.
Air Quality site number (see map for location)
SITE
DAY 23 42 PEAK
Day of the Month
Highest 24-hour average for the day.
Monthly 24-hour averages of each site
Letters indicate reasons for missing data (see abbreviation table).
AV
GM
MX
Computer program name and revision date
Geometric mean of values from the averages
Highest 24-hour average for each site

SECTION 2.0

METEOROLOGY

WIND SPEED

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

MAR, 1978

AEROVIRONMENT INC.

```
*********************
*                   *
*    FINAL DATA     *
*  AS OF 09/JUN/78  *
*                   *
*********************
```

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	2	2	4	4	4	4	4	3	3	3	4	2	2	3	3	3	3	1	1	2	1	2	2	2	3	4
2	2	2	1	2	2	1	2	1	1	3	4	6	7	7	6	5	5	6	5	3	2	1	2	2	3	7
3	2	3	4	4	3	3	4	2	2	3	3	4	4	4	3	2	3	2	1	0	1	1	0	1	2	4
4	2	1	0	1	1	1	1	3	2	3	3	1	2	4	2	3	4	4	4	3	3	4	3	2	2	4
5	3	3	3	3	4	2	2	2	3	2	4	3	4	4	3	2	3	2	2	1	2	2	2	2	3	4
6	2	1	2	2	2	1	2	0	1	1	3	4	4	4	4	4	2	1	2	1	1	1	3	2	2	4
7	2	2	1	1	1	1	2	2	2	2	2	3	3	2	2	3	3	2	2	1	2	2	2	3	2	3
8	3	4	3	4	4	4	3	1	3	4	3	2	3	5	4	3	2	2	1	2	4	4	4	4	3	5
9	4	4	4	4	2	3	5	5	4	3	4	4	3	4	3	3	2	1	2	2	2	2	2	2	3	5
10	2	2	2	2	2	2	2	2	2	1	2	3	3	3	2	5	4	3	3	3	2	2	(IM)	(IM)	2	5
11	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	0	1	1	1	3	4	3	3	3	3	2	1	1	2	1	3	3	2	4
12	3	2	2	1	1	2	2	4	3	4	4	4	4	3	3	4	3	2	1	1	1	0	0	0	2	4
13	0	0	0	2	2	1	1	0	1	1	1	1	2	1	1	2	5	1	1	1	1	1	2	1	1	5
14	2	1	2	3	3	3	1	1	0	3	2	2	2	2	1	3	3	3	3	2	1	1	3	2	2	3
15	2	2	2	2	2	3	3	3	4	4	1	2	3	4	4	5	6	4	2	1	2	2	3	3	3	6
16	4	4	4	4	5	5	5	6	6	3	2	2	3	3	4	4	3	2	2	3	3	4	4	4	4	6
17	4	5	5	4	4	5	5	6	4	3	3	2	3	3	3	3	3	2	2	2	3	4	4	4	4	6
18	5	4	3	3	3	3	4	4	4	4	3	4	4	4	4	4	4	3	2	2	2	2	3	4	3	5
19	4	5	4	4	3	3	3	3	3	3	3	4	4	2	2	3	2	1	1	2	2	2	2	2	3	5
20	1	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	4	3	3	2	2	3	2	3	4	3	2	2	2	2	2	3	3	3	4
21	3	3	3	3	3	2	4	4	4	2	3	3	3	3	4	4	3	2	2	3	4	4	3	4	3	4
22	3	2	2	2	3	2	2	3	3	2	3	3	3	3	3	1	4	2	2	2	2	2	2	2	2	4
23	3	3	1	1	2	1	1	1	1	1	3	3	3	3	2	3	3	3	1	2	3	2	2	1	2	3
24	2	3	2	2	1	2	1	0	0	0	1	0	1	2	2	2	2	3	1	1	1	2	3	3	2	3
25	3	2	3	(IM)	(IM)	(IM)	(IM)	(IM)	2	2	1	1	2	3	3	2	2	2	2	1	1	2	2	2	2	3
26	2	1	2	2	2	2	3	3	3	2	1	1	1	2	1	1	3	3	2	2	2	2	3	3	2	3
27	2	3	5	4	4	2	3	3	3	2	2	2	3	3	3	3	3	1	1	2	2	2	2	2	3	5
28	2	2	2	2	2	1	2	2	2	1	3	2	3	3	3	3	3	2	2	1	3	2	1	2	2	3
29	2	3	4	2	3	3	2	2	1	1	1	1	3	3	3	3	3	2	1	2	2	2	3	3	2	4
30	4	4	4	3	4	4	5	5	3	4	4	4	4	4	6	5	3	1	1	1	2	3	3	2	3	6
31	4	3	2	3	2	2	3	2	3	3	4	4	6	4	4	3	3	1	2	5	4	4	5	2	3	6
AV	3	3	3	3	3	2	3	3	2	2	3	3	3	3	3	3	3	2	2	2	2	2	3	2	3	[ ]
SD	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	[ ]

AQOUT [15 MAY 78]

WIND SPEED AT LEVEL 2

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*  AS OF 09/JUN/78   *
*                    *
**********************
```

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	2	3	4	4	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	3	4
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	3	4	3	4	4	3	2	2	1	1	1	3	4
3	1	2	2	2	2	1	2	1	0	2	2	2	2	2	1	1	1	1	1	0	1	1	1	1	1	2
4	1	1	1	1	1	1	1	1	1	3	0	0	3	4	5	4	5	5	7	7	6	7	8	5	3	8
5	5	5	6	4	6	8	4	3	4	4	7	8	8	6	4	5	3	3	2	2	1	2	1	1	4	8
6	1	1	1	1	0	1	1	1	0	0	3	3	3	5	4	4	4	1	1	1	1	1	3	3	2	5
7	2	3	1	2	1	2	2	1	1	0	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	3
8	1	1	0	1	1	0	1	0	1	1	2	2	1	4	4	4	4	3	3	1	1	1	2	2	2	4
9	2	2	2	1	1	1	1	1	0	4	5	4	4	4	4	4	3	1	1	1	1	1	1	1	2	5
10	1	1	1	1	2	0	0	1	1	1	1	2	2	2	1	4	4	2	4	3	1	1	1	1	2	4
11	1	1	1	1	1	0	1	1	1	1	1	4	5	4	4	4	4	4	2	2	2	2	1	3	2	5
12	2	2	2	1	1	1	2	2	3	4	4	5	4	4	4	6	4	3	2	1	2	2	1	1	3	6
13	1	0	0	3	3	2	0	1	1	1	1	1	2	1	4	4	4	3	1	1	1	2	2	1	2	4
14	1	1	1	1	1	1	2	1	1	2	1	3	4	2	2	3	3	1	2	2	2	1	1	2	2	4
15	2	0	2	2	1	0	1	1	0	0	1	2	3	3	4	5	5	4	3	2	1	2	1	2	2	5
16	2	1	1	1	1	1	1	1	1	1	3	2	2	3	4	4	3	3	2	1	1	1	2	1	2	4
17	1	1	1	2	2	1	2	1	2	2	3	3	3	4	4	4	3	3	3	3	3	1	2	2	2	4
18	3	3	2	2	4	3	1	1	2	3	5	4	5	4	4	5	5	4	4	2	1	1	1	1	3	5
19	1	1	1	2	1	1	1	1	1	4	4	5	4	3	2	1	2	0	1	0	1	2	2	1	2	5
20	1	1	2	2	1	1	2	0	0	3	1	2	2	1	2	2	2	2	1	1	1	0	1	1	1	3
21	0	1	1	1	1	1	2	2	1	4	4	4	4	4	4	4	4	4	4	3	2	2	2	1	2	4
22	1	3	3	2	2	3	2	3	4	3	1	1	3	4	6	3	4	4	4	2	2	2	1	1	3	6
23	1	1	1	1	1	1	1	1	0	2	4	4	4	4	3	4	3	1	2	1	1	3	3	1	2	4
24	2	1	1	1	1	3	2	2	1	1	1	0	0	1	2	2	2	2	2	(IM)	(IM)	(IM)	(IM)	(IM)	1	3
25	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	0	1	1	1	1	2	2	2	1	1	0	1	2	1	1	0	1	2
26	0	0	1	0	0	0	0	0	1	1	1	1	1	2	2	2	2	3	3	4	1	0	1	1	1	4
27	1	1	2	2	2	2	2	2	1	1	1	3	4	4	4	4	4	2	2	2	1	2	1	0	2	4
28	1	1	1	1	1	1	2	1	1	1	2	3	3	3	3	4	4	4	2	1	2	1	0	1	2	4
29	0	0	0	1	1	1	1	0	1	1	2	3	3	4	4	3	3	3	2	3	1	1	1	1	2	4
30	0	0	1	2	1	1	1	1	5	6	5	5	5	6	6	4	3	2	2	1	1	1	2	2	3	6
31	1	2	3	3	3	3	2	2	7	6	7	8	7	5	6	3	2	2	4	9	4	4	5	3	4	9
AV	1	1	1	2	2	1	1	1	1	2	3	3	3	3	3	3	3	3	2	2	2	2	2	1	2	( )
SD	1	1	1	1	1	2	1	1	2	2	2	2	2	1	1	1	1	1	1	2	1	1	2	1	1	( )

ADOUT (15 MAY 78)

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WIND SPEED AT LEVEL 3

METERS/SECOND
LEVEL HEIGHT : 30 METERS

                                   C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                        *                    *
                                   SITE   23                            *     FINAL DATA     *
                                                                        *  AS OF 09/JUN/78   *
                                   MAR, 1978                            *                    *
                                                                        **********************
                                   AEROVIRONMENT INC.


                         CLOCK HOUR  (LOCAL STANDARD TIME)

DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23   AVE PEAK

  1  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)     2     2     3     4     5  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)     3    5
  2  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)     3  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)     3    3
  3  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (  ) (  )
  4  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)     0     4     3     4     6     5     6     5     6     7     8     8     7     8    10     7     6   10
  5     7     7     8     4     8     9     6     4     4     4     7     8     8     7     5     5     5     4     3     4     3     3     1     1     5    9
  6     2     1     1     1     0     2     1     1     1     1     3     4     4     6     5     5     4     3     2     2     2     2     4     4     3    6
  7     3     3     2     2     2     3     2     2     1     1     2     2     2     2     1     2     1     3     2     1     1     2     2     1     2    3
  8     1     2     1     1     1     1     1     1     1     1     2     3     2     4     4     4     4     3     4     2     1     2     3     3     2    4
  9     3     2     2     2     1     2     2     2     1     5     5     4     4     4     4     4     4     2     1     1     1     1     2     1     2    5
 10     1     1     1     1     1     1     1     1     1     2     2     2     2     3     2     4     5     2     4     4     2     2     2     1     2    5
 11     1     1     1     1     1     1     1     1     1     1     1     4     5     5     5     4     4     4     2     3     2     3     4     4     2   .5
 12     4     4     3     2     2     2     3     3     4     4     5     6     5     4     4     6     4     4     4     3     3     2     2     1     3    6
 13     1     0     1     3     4     3     1     1     1     1     1     1     2     1     4     4     5     4     2     3     3     3     2     1     2    5
 14     3     3     2     2     1     2     3     2     2     2     2     4     4     3     2     4     4     2     3     3     2     2     4     3     3    4
 15     3     1     2     3     2     0     0     1     0     0     1     2     3     4     4     5     6     5     4     4     1     2     2     2     2    6
 16     2     1     1     2     2     1     1     2     2     2     3     3     3     4     5     4     4     4     4     3     2     1     2     1     2    5
 17     2     3     2     2     2     2     3     2     2     3     4     4     4     4     4     4     4     4     4     4     4     2     3     3     3    4
 18     3     4     2     3     5     4     2     1     2     4     6     6     6     6     6     6     5     5     5     3     2     1     3     3     4    6
 19     2     1     2     2     2     1     1     1     2     4     5     6     5     3     2     2     2     1     1     1     2     3     3     2     2    6
 20     2     1     2     3     2     1     2     2     1     3     1     2     3     1     2     2     2     3     2     2     2     1     2     1     2    3
 21     1     1     1     1     1     1     2     2     2     4     4     4     4     4     4     5     4     4     4     4     3     2     3     2     3    5
 22     2     4     4     3     3     4     3     3     4     4     2     2     4     4     7     4     6     6     5     3     2     2     1     2     3    7
 23     2     2     1     2     1     1     1     1     1     3     2     5     5     4     3     4     5     2     3     1     2     3     3     2     2    5
 24     2     2     2     1     1     2     3     3     1     2     1     1     1     1     2     3     4     2     2     1     2     1     1     1     2    4
 25     0     0     1     1     1     1     0     1     1     1     1     1     2     2     3     2     2     2     1     1     2     1     2     1     1    3
 26     1     1     1     0     0     1     0     0     1     1     1     1     1     2     2     2     3     3     4     4     3     3     1     2     2    4
 27     2     2     2     3     2     3     3     2     1     1     1     4     4     4     4     4     4     3     3     2     1     1     1     1     2    4
 28     1     1     1     1     1     1     2     2     1     1     2     3     3     3     3     3     4     4     3     3     3     2     1     0     2    4
 29     1     1     0     1     1     1     1     1     1     1     2     3     4     4     4     4     4     4     4     4     3     1     1     0     2    4
 30     0     1     2     2     1     1     1     1     6     7     6     5     6     6     7     5     4     2     2     2     2     1     3     2     3    7
 31     2     2     3     4     4     4     4     2     7     6     7     8     8     6     6     4     2     3     5    10     5     5     6     3     5   10

 AV     2     2     2     2     2     2     2     2     2     3     3     4     4     4     4     4     4     3     3     3     2     2     3     2     3 (  )
 SD     1     1     1     1     2     2     1     1     2     2     2     2     2     2     2     1     1     1     2     2     1     1     2     1     1 (  )

ADOUT     (15 MAY 78)
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WIND SPEED AT LEVEL 4

METERS/SECOND
LEVEL HEIGHT : 60 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 09/JUN/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	2	2	3	4	5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	3	5
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	3	4	3	4	3	3	2	2	1	0	1	2	4
3	1	2	2	2	2	1	2	1	0	2	2	2	2	2	1	1	1	1	1	1	1	2	1	1	1	2
4	2	1	1	1	1	1	1	2	2	4	3	4	6	5	6	5	6	6	9	8	7	8	10	8	4	10
5	7	7	8	5	8	10	6	4	4	4	8	10	10	7	4	5	4	4	3	4	3	4	1	1	5	10
6	2	2	2	1	0	2	2	2	1	1	3	4	4	5	5	5	4	3	2	2	2	2	4	4	3	5
7	3	4	2	2	2	3	2	2	1	1	2	2	2	1	1	2	2	3	2	1	0	1	2	2	2	4
8	1	1	1	1	1	1	1	1	1	0	2	2	2	4	4	4	5	4	4	1	1	1	2	3	2	5
9	2	2	1	2	1	2	3	2	2	5	6	4	4	4	5	4	3	2	1	1	1	0	1	2	2	6
10	1	2	1	1	1	1	0	0	1	1	1	2	2	3	2	4	5	2	4	3	2	1	2	1	2	5
11	1	1	1	1	1	1	1	2	1	1	2	4	4	5	5	4	4	5	2	3	3	3	4	4	3	5
12	4	4	4	2	2	2	4	4	4	4	5	6	5	4	5	6	4	4	4	4	3	3	2	1	4	6
13	1	0	1	4	4	3	1	1	1	1	1	1	2	2	4	4	5	3	3	3	3	3	2	1	2	5
14	3	3	2	2	2	3	3	2	2	2	2	4	4	3	2	4	4	2	3	3	2	2	2	4	3	4
15	3	1	2	3	3	1	0	1	0	0	1	2	3	4	5	5	5	4	4	2	1	2	1	2	2	5
16	2	1	1	1	1	1	1	1	1	1	3	2	2	4	4	4	4	3	2	2	1	1	1	1	2	4
17	1	1	2	1	2	2	2	1	2	3	4	4	4	4	4	4	4	4	4	4	3	2	3	3	3	4
18	3	5	2	5	7	4	3	1	2	5	5	6	6	6	6	6	5	6	6	4	2	1	4	4	4	7
19	2	2	2	1	1	1	5	1	1	4	4	6	5	4	2	2	2	1	1	1	1	2	2	1	2	6
20	1	1	2	2	2	2	2	2	2	3	1	2	2	1	2	2	2	3	3	2	2	1	2	1	2	3
21	1	1	1	1	1	1	1	2	1	4	5	4	4	4	4	5	5	4	4	4	2	2	3	2	3	5
22	3	4	3	4	3	4	4	3	4	4	2	2	3	4	7	4	5	6	6	3	2	2	1	2	4	7
23	2	2	1	1	2	1	1	1	1	3	2	5	4	4	3	5	6	3	3	2	2	3	4	2	3	6
24	2	2	2	1	1	2	4	3	2	2	1	0	1	1	2	3	3	2	2	1	2	1	2	1	2	4
25	1	1	1	1	1	1	0	1	1	1	2	1	2	2	2	2	2	2	1	1	2	1	1	1	1	2
26	0	1	1	0	1	0	0	0	1	1	1	1	1	2	2	2	3	3	4	4	4	2	2	2	2	4
27	2	2	3	2	3	2	2	2	1	1	1	3	4	4	4	4	4	4	3	2	1	1	1	1	2	4
28	1	1	1	1	1	2	3	2	1	1	2	3	3	3	3	4	4	4	4	2	3	2	1	0	2	4
29	1	1	1	0	1	1	1	1	1	1	2	3	4	4	4	4	4	4	4	4	3	1	1	0	2	4
30	1	0	2	2	1	2	1	3	6	7	6	5	6	7	7	5	4	2	2	3	3	1	4	2	3	7
31	2	3	4	5	4	6	3	2	8	6	7	8	8	6	6	3	3	3	5	10	6	7	8	3	5	10
AV	2	2	2	2	2	2	2	2	2	2	3	3	4	4	4	4	4	3	3	3	2	2	2	2	3	( )
SD	1	2	1	1	2	2	2	1	2	2	2	2	2	2	2	1	1	1	2	2	1	2	2	2	1	( )

AODUT (15 MAY 78)

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WIND SPEED

METERS/SECOND
LEVEL HEIGHT : 10 METERS                              C-B OIL SHALE PROJECT, COLORADO    ***********************
                                                                                         *                     *
                                                      SITE     42                        *     FINAL DATA      *
                                                                                         *  AS OF 09/JUN/78    *
                                                      MAR, 1978                          *                     *
                                                                                         ***********************
                                                      AEROVIRONMENT INC.



                                         CLOCK HOUR  (LOCAL STANDARD TIME)


DAY    00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23    AVE PEAK


  1     2    2    4    4    3    2    3    3    2    3    2    2    5    5    4    5    6    3    2    1    1    2    1    2      3    6
  2     2    2    2    2    2    2    2    2    1 (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)      2    2
  3  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
  4  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
  5  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
  6  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
  7  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
  8  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
  9  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 10  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 11  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 12  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 13  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)    2    6    4    3    2    1    2    1    1      2    6
 14     3    2    2    2    2    2    2    2    1    3    2    7    3    3    2    3    4    2    4    2    3    2    3    2      3    7
 15     2    1    1    2    2    1    2    2    2    1    1    2    4    4    5    6    5    5    2    2    1    2    1    2      2    6
 16     2    3    3    3    3    3    2    2 (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)      3    3
 17  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 18  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 19  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 20  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF), (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 21  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 22  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 23  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 24  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 25  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 26  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 27  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)    3    4    4    4    4    4    3    2    1    1    1    1    2      3    4
 28     2    1    2    1    1    1    1    2    2 (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)      1    2
 29  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 30  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )
 31  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   (  ) (  )

 AV     2    2    2    2    2    2    2    2    2    2    2    3    4    4    4    4    5    3    3    2    1    2    1    2      2 (  )
 SD     0    1    1    1    1    1    1    0    0    1    0    2    1    1    1    1    1    1    1    0    1    0    1    0      0 (  )

ADOUT     (15 MAY 78)
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WIND SPEED

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 56

MAR, 1978

AEROVIRONMENT INC.

****
* FINAL DATA *
* AS OF 09/JUN/78 *
****

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	2	1	1	2	3	3	2	2	2	2	2	2	2	3	2	2	3	2	1	2	2	2	1	1	2	3
2	2	1	1	1	1	1	1	1	1	2	3	4	3	2	3	2	2	2	2	1	1	1	1	1	2	4
3	1	1	1	1	2	1	1	1	1	2	2	3	3	4	4	3	3	2	1	0	1	1	1	1	2	4
4	1	1	1	1	1	1	1	1	2	1	3	3	1	2	3	2	2	2	2	2	1	2	2	2	2	3
5	2	1	1	1	2	1	1	1	2	1	2	4	4	4	3	3	3	3	1	2	1	2	1	1	2	4
6	2	1	1	1	1	1	1	1	0	2	2	2	2	4	4	3	4	2	1	1	1	1	2	2	2	4
7	1	1	1	1	1	1	1	1	1	1	2	2	3	2	2	2	2	2	1	2	1	2	1	2	1	3
8	1	1	1	2	1	2	1	1	1	3	4	2	2	3	3	2	2	2	1	2	2	1	2	2	2	4
9	1	1	2	2	2	2	1	2	3	3	2	4	3	2	3	2	2	1	1	1	1	1	1	1	2	4
10	1	1	1	1	1	2	2	1	1	1	3	2	2	2	2	2	6	3	2	2	1	1	1	1	2	6
11	1	1	0	1	1	1	1	1	0	1	1	1	3	4	3	3	3	2	2	1	1	2	1	1	1	4
12	1	1	1	2	1	1	1	1	1	1	2	2	3	2	3	3	3	3	2	1	1	0	1	1	2	3
13	0	0	0	0	0	0	1	1	0	0	1	1	2	2	2	1	4	2	1	1	1	1	1	1	1	4
14	1	1	2	1	1	1	1	1	1	1	2	2	2	2	1	2	3	2	2	1	0	2	1	1	1	3
15	2	1	1	1	1	2	2	2	2	2	1	1	3	4	4	4	5	3	2	2	1	1	2	1	2	5
16	2	2	2	2	2	3	3	3	3	4	3	2	2	2	3	2	2	1	1	2	1	1	1	2	2	4
17	2	2	2	2	2	2	1	2	2	4	3	1	2	3	3	2	2	1	1	2	2	2	2	1	2	4
18	2	1	2	2	3	1	2	2	3	2	4	4	5	3	3	3	3	1	1	2	2	2	2	2	2	5
19	2	1	2	2	2	2	2	2	3	2	2	3	2	2	1	2	1	1	1	1	1	1	1	1	2	3
20	1	1	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	2	2	2	2	2	2	2	3	2	1	1	2	2	1	2	2	2	3
21	1	1	1	1	1	1	1	1	2	3	2	3	3	3	3	3	3	1	1	2	2	2	1	2	2	3
22	1	1	1	1	2	2	2	1	1	1	1	3	2	2	1	2	3	2	2	2	1	2	2	1	2	3
23	1	2	1	2	1	1	1	1	1	2	1	2	4	3	2	2	3	2	1	1	2	2	2	1	2	4
24	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	3	2	2	1	1	1	(IM)	(IM)	(IM)	1	3
25	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1	2	1	1	2	2	2	2	1	2	1	2	1	1	1	1	2
26	1	1	2	2	1	1	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2
27	2	1	1	2	2	2	2	1	3	3	3	2	3	3	2	3	2	1	1	2	1	1	2	1	2	3
28	2	1	1	1	1	2	2	1	2	1	3	2	3	4	3	3	3	4	2	2	2	2	2	2	2	4
29	1	1	1	1	1	1	1	1	1	2	1	1	2	3	2	3	2	2	2	2	2	2	2	2	2	3
30	1	1	1	1	2	2	2	3	3	2	4	4	4	4	4	3	3	2	1	1	2	2	1	2	2	4
31	2	2	2	1	2	2	1	3	2	4	4	4	6	6	4	4	2	1	1	3	3	3	3	3	3	6
AV	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3	3	2	1	2	1	2	1	1	2	( )
SD	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	( )

ADOUT (15 MAY 78)

WIND DIRECTION

DEGREES
LEVEL HEIGHT : 10 METERS

C-A OIL SHALE PROJECT, COLORADO

SITE 20

MAR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 09/JUN/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	125	90	115	90	85	105	110	90	90	100	120	125	180	210	175	160	195	170	120	110	115	105	100	120	6
2	125	90	120	130	110	110	115	100	(VA)	295	295	280	280	275	280	280	280	280	285	280	280	290	295	290	13
3	285	280	285	285	280	290	275	285	310	290	295	300	295	305	295	300	290	290	30	105	100	85	70	110	14
4	105	340	20	340	110	90	115	110	60	310	310	315	130	180	170	150	150	130	85	110	110	110	115	125	6
5	110	100	115	120	110	60	120	110	115	120	180	200	180	200	220	240	220	220	150	120	110	110	105	120	6
6	125	120	120	110	115	990	320	50	50	330	290	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	6
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )
8	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )
9	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )
10	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(VA)	340	350	370	290	290	300	310	350	70	(VA)
11	110	50	310	295	30	85	320	70	310	390	350	200	170	170	180	220	190	180	130	120	115	105	120	110	6
12	130	130	100	110	100	130	120	140	140	130	130	150	160	200	190	180	230	210	145	105	320	80	95	80	7
13	40	95	90	300	300	350	110	100	110	130	990	310	300	80	100	10	300	230	100	100	110	115	110	110	6
14	115	110	105	110	130	135	135	115	105	280	290	320	290	280	990	285	295	15	290	275	(VA)	70	315	0	14
15	60	100	110	110	110	110	110	110	140	140	110	310	300	295	300	305	300	310	350	40	110	115	135	140	6
16	135	140	140	140	140	140	145	145	145	130	110	120	120	160	170	140	120	140	120	130	130	140	145	140	7
17	130	135	140	150	145	140	140	140	140	95	110	145	170	160	160	180	185	150	120	110	140	140	135	155	7
18	145	140	125	120	100	105	130	110	140	160	210	210	210	225	190	180	195	140	80	120	100	95	110	130	6
19	140	145	140	140	140	130	130	120	145	160	210	200	145	260	310	310	20	130	130	70	80	110	70	115	7
20	105	120	125	130	135	140	135	140	140	110	100	170	130	200	280	310	320	300	60	110	130	110	110	130	6
21	110	120	120	125	130	120	130	135	135	125	170	180	220	220	200	220	180	145	125	115	140	140	140	140	7
22	125	125	110	110	140	110	110	125	130	220	60	75	95	160	(VA)	90	90	80	100	120	130	130	145	145	6
23	120	105	110	115	110	110	100	110	120	90	125	170	100	20	90	100	95	100	110	125	130	30	125	120	6
24	120	135	120	110	115	330	325	330	335	(VA)	115	120	290	135	150	130	80	130	60	120	105	110	100	120	6
25	110	110	110	115	135	130	130	130	140	140	145	190	250	250	260	280	260	250	110	90	110	110	110	110	6
26	110	110	110	115	115	115	140	140	140	135	120	75	(VA)	280	(VA)	250	145	150	130	110	125	110	120	135	7
27	130	140	140	140	135	135	135	135	135	110	90	(VA)	220	210	200	220	220	210	70	115	125	110	115	110	6
28	125	110	110	110	120	110	110	110	130	200	280	260	25	340	5	5	0	10	30	105	135	100	110	110	6
29	110	115	145	120	120	135	100	110	100	130	135	(VA)	70	185	175	195	195	210	105	110	105	140	110	125	6
30	145	140	140	130	130	130	140	140	135	175	175	190	175	195	230	260	250	210	215	110	120	120	120	130	7
31	75	125	(VA)	120	100	110	115	110	170	190	205	215	210	200	190	190	160	130	130	240	160	130	110	120	6
PV	7	6	6	6	6	6	6	6	6	6	6	9	9	10	9	9	(VA)	7	6	6	6	6	6	6	6

AQOUT (15 MAY 78)

WIND DIRECTION AT LEVEL 2

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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*                   *
*    FINAL DATA     *
*  AS OF 09/JUN/78  *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	110	165	195	215	225	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	11
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	295	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	14
3	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )
4	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	195	245	240	190	200	200	185	180	185	180	190	185	190	185	190	9
5	180	180	180	190	185	185	180	185	190	190	210	205	200	205	215	210	230	235	200	200	185	180	130	105	10
6	145	145	(VA)	85	165	285	265	290	(VA)	350	335	325	355	10	10	350	10	20	305	(VA)	75	35	340	355	16
7	320	325	300	295	290	310	315	300	265	295	335	340	340	340	25	10	10	5	345	305	210	205	170	175	16
8	(VA)	155	40	160	165	200	195	350	70	350	255	210	200	170	170	200	205	180	165	135	140	150	150	130	8
9	155	125	115	115	105	100	115	85	(VA)	195	220	190	195	195	200	210	205	170	170	165	140	205	190	195	9
10	135	175	215	200	215	(VA)	170	240	245	290	295	290	335	335	10	340	10	325	335	320	315	280	285	335	16
11	(IM)	180	(VA)	290	135	50	145	325	330	25	215	195	205	205	225	195	200	200	175	165	150	145	155	170	9
12	160	145	145	120	120	135	125	130	135	140	170	185	195	200	210	220	240	230	230	215	255	270	265	205	(VA)
13	260	135	120	325	325	5	280	130	45	70	60	5	345	120	225	310	275	270	220	225	280	310	295	255	13
14	205	230	200	200	165	305	295	325	340	300	325	5	5	340	325	320	320	20	310	325	330	345	340	320	15
15	300	235	215	235	235	205	205	230	80	10	315	300	315	315	310	305	315	320	325	300	230	245	190	215	15
16	210	180	185	180	185	140	145	110	80	80	220	230	225	205	205	200	205	200	205	155	185	110	125	105	10
17	105	125	130	120	150	135	150	110	175	200	205	225	215	225	220	215	205	185	175	165	155	125	145	135	7
18	165	150	130	200	185	165	185	(IM)	195	210	220	210	215	220	215	225	205	200	195	130	100	105	180	170	10
19	135	105	105	120	100	115	105	130	105	215	215	195	180	210	315	15	350	130	160	210	65	180	215	105	6
20	155	175	130	165	160	125	120	135	210	190	230	275	250	245	255	240	340	0	210	140	65	340	110	130	7
21	145	175	190	105	195	25	125	130	75	210	210	210	215	205	220	210	200	205	190	190	160	160	145	130	10
22	150	180	180	195	175	190	130	90	160	205	150	115	165	180	225	235	180	195	190	140	85	100	135	155	9
23	130	150	195	(VA)	145	85	105	115	290	270	35	215	205	240	30	200	200	165	255	90	175	5	(IM)	115	6
24	140	120	105	30	150	255	275	330	5	10	120	130	45	95	285	220	55	125	(VA)	(IM)	(IM)	(IM)	(IM)	(IM)	6
25	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	10	60	45	355	0	325	335	15	330	340	210	215	50	215	300	1
26	(VA)	255	245	125	240	190	130	345	65	60	10	345	350	325	35	80	150	150	175	180	185	60	100	105	9
27	150	140	140	130	130	150	145	115	80	70	290	195	200	185	210	205	210	215	185	200	140	260	165	235	(VA)
28	70	(VA)	15	55	270	275	240	175	90	300	315	315	350	350	0	10	355	15	30	80	110	105	285	220	2
29	(VA)	140	220	195	165	195	220	95	0	30	50	130	195	180	200	185	190	195	185	200	195	105	210	170	10
30	10	45	190	195	185	165	150	120	190	185	180	180	180	200	220	225	215	185	175	195	225	165	195	170	9
31	110	155	200	190	190	185	200	205	205	200	200	200	205	195	195	170	150	155	180	215	135	135	130	160	9
PV	7	7	7	10	8	9	7	6	5	10	11	10	10	10	11	10	10	10	9	10	9	6	(VA)	9	10

ADOUT (15 MAY 78)

WIND DIRECTION LEVEL 3

DEGREES
LEVEL HEIGHT : 30 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 09/JUN/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	140	165	170	215	215	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(VA)
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	295	290	(IM)	295	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	14
3	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )
4	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	245	195	205	205	190	190	190	185	180	175	175	185	180	175	175	185	9
5	175	170	170	180	175	175	175	175	180	195	190	205	200	195	205	195	225	220	200	205	185	180	225	120	10
6	150	155	205	60	(IM)	290	275	295	40	340	320	315	350	355	355	345	0	10	330	350	40	15	330	345	16
7	320	315	300	290	290	300	305	300	280	295	340	335	320	315	350	350	345	345	335	320	195	160	150	175	15
8	145	155	60	120	130	90	145	345	75	350	205	205	200	155	170	190	195	180	165	125	110	130	130	120	7
9	135	130	(VA)	150	140	140	140	120	170	190	205	180	190	190	200	205	200	165	185	160	(IM)	(IM)	135	170	9
10	(IM)	155	140	200	215	250	(IM)	(IM)	(IM)	290	290	285	325	335	20	335	345	305	330	320	320	290	275	330	15
11	(IM)	135	90	290	135	(IM)	195	165	310	50	210	200	200	200	210	200	195	195	175	160	150	150	155	175	10
12	155	140	145	135	135	135	120	120	135	140	165	180	190	195	210	210	235	215	215	210	255	270	270	210	7
13	270	(IM)	(IM)	315	315	355	25	105	100	75	45	320	340	110	260	270	280	270	210	215	280	300	300	255	13
14	190	260	200	205	175	270	295	320	335	300	325	345	345	335	315	310	325	30	315	315	300	270	340	310	15
15	295	300	235	240	240	255	175	240	100	100	315	300	310	310	300	300	300	310	325	305	165	270	215	215	14
16	210	165	175	190	195	145	140	120	80	100	210	205	225	205	195	190	210	195	200	190	180	165	130	120	9
17	105	105	125	120	120	130	150	120	175	185	200	210	205	210	210	210	200	180	180	165	145	120	135	135	(VA)
18	165	150	160	190	180	165	195	80	180	205	210	210	210	210	205	210	200	195	190	150	100	115	195	195	10
19	145	135	105	130	105	120	105	130	130	210	210	190	175	210	310	345	345	90	150	205	60	100	190	100	7
20	135	175	145	160	190	165	135	150	200	180	225	300	225	225	200	245	330	345	205	160	210	235	120	140	10
21	175	180	150	70	185	10	90	110	75	205	195	200	205	205	195	205	195	195	175	175	145	145	125	105	9
22	140	165	160	175	175	180	145	85	145	190	130	115	160	180	200	225	180	190	180	150	105	95	160	170	8
23	130	145	195	145	170	150	90	(VA)	240	260	10	220	200	215	10	190	180	175	250	155	145	20	140	130	(VA)
24	135	145	130	15	90	(VA)	250	315	0	5	90	90	350	85	(VA)	220	55	105	(VA)	(IM)	(IM)	(IM)	(IM)	(IM)	5
25	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	60	30	40	35	345	345	310	340	345	315	330	205	225	(VA)	215	210	16
26	335	(IM)	230	(IM)	(IM)	240	(VA)	30	60	50	350	345	320	310	10	30	140	145	160	160	170	185	190	115	16
27	120	120	115	120	110	120	120	120	70	75	300	190	200	195	210	210	210	215	190	185	(IM)	255	180	(IM)	10
28	(IM)	(IM)	10	(VA)	280	280	240	175	100	310	305	320	355	360	10	10	355	10	30	85	105	105	280	240	1
29	(IM)	140	(IM)	195	165	170	220	95	0	40	40	100	185	185	195	185	190	200	185	200	185	105	(IM)	(IM)	9
30	(IM)	45	190	195	185	170	155	120	185	190	180	180	180	190	220	225	215	185	175	195	225	165	195	170	9
31	115	155	205	190	185	185	200	205	205	200	200	190	200	195	200	170	150	155	180	215	145	130	135	180	9
PV	7	8	7	9	9	7	7	6	4	10	10	10	10	10	10	10	10	10	9	8	(VA)	8	7	9	9

AQOUT (15 MAY 78)

WIND DIRECTION AT LEVEL 4

DEGREES
LEVEL HEIGHT : 60 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 09/JUN/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	160	200	195	210	225	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	10
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	295	290	290	295	290	280	275	275	265	(IM)	295	14
3	260	295	285	285	(IM)	270	275	290	275	315	300	300	295	295	285	310	315	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	14
4	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	210	215	195	210	210	195	195	200	185	185	180	180	195	180	180	175	185	10
5	180	180	175	180	185	185	175	180	200	190	200	205	205	200	210	205	225	220	215	210	200	200	220	165	10
6	185	205	200	240	175	300	320	300	40	340	325	315	350	355	0	345	5	10	335	345	45	15	335	345	16
7	330	330	305	295	300	315	315	305	285	290	340	340	330	320	10	350	350	345	340	330	180	160	170	170	15
8	170	180	35	105	140	120	160	285	120	170	260	220	205	170	170	195	200	195	180	155	120	125	140	140	9
9	150	175	175	195	195	180	180	175	190	195	210	180	195	195	200	210	205	175	185	165	25	195	135	160	9
10	150	205	225	210	220	280	(VA)	285	255	290	300	295	330	335	20	335	350	320	335	330	330	295	275	335	16
11	65	145	95	290	130	110	80	150	225	55	195	205	195	195	215	195	190	195	175	170	155	160	155	180	9
12	160	145	155	190	155	145	130	120	130	145	175	180	185	190	215	210	235	230	220	215	245	275	285	210	9
13	265	175	15	315	320	355	350	65	60	35	60	40	295	320	115	230	290	270	255	215	225	285	300	300	14
14	260	190	215	230	210	195	240	290	305	335	320	350	345	335	310	310	320	25	315	315	295	260	335	305	15
15	290	320	255	265	270	315	(IM)	225	165	300	310	295	300	310	305	300	300	310	325	320	295	390	285	240	14
16	220	175	180	205	205	190	165	130	80	105	215	220	220	205	200	195	210	205	200	195	200	195	155	180	10
17	145	115	140	135	130	140	180	170	190	190	205	220	210	210	215	215	200	185	190	180	165	140	165	180	9
18	195	180	185	200	195	175	205	175	205	210	215	215	215	220	210	215	205	200	200	190	160	205	205	205	10
19	200	185	170	170	165	190	15	(VA)	190	210	210	195	180	215	315	310	335	110	165	215	60	165	200	130	9
20	160	195	160	180	205	180	155	195	205	190	245	280	220	255	270	240	285	250	220	205	205	195	180	200	10
21	215	210	200	100	185	300	100	130	110	205	200	210	210	210	205	210	205	205	190	190	165	175	135	125	10
22	160	165	175	180	195	180	165	90	165	180	165	150	170	180	205	240	190	195	190	180	160	125	195	180	9
23	150	160	235	210	185	195	225	285	240	255	355	225	210	230	325	205	195	190	255	240	205	15	140	180	10
24	165	170	180	15	165	(VA)	255	310	345	350	90	325	320	85	(VA)	220	55	110	240	(VA)	(IM)	(IM)	(IM)	(IM)	15
25	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	165	130	70	60	25	335	340	320	315	15	315	330	235	215	35	195	225	15
26	125	70	105	115	140	225	145	90	80	60	15	350	330	15	75	145	140	155	165	165	180	190	175	140	7
27	125	145	140	135	120	125	125	135	85	90	300	205	200	215	220	220	225	230	205	245	45	255	240	245	11
28	175	160	300	280	265	305	265	295	60	295	315	310	330	355	0	15	0	15	30	70	95	105	315	(IM)	14
29	215	145	105	165	200	95	245	150	50	40	65	145	210	200	200	200	205	205	205	210	215	105	35	235	11
30	200	310	215	210	195	190	180	180	190	195	200	190	195	205	235	240	220	205	195	210	235	215	215	200	10
31	135	190	215	210	205	195	205	195	215	210	210	210	215	205	205	180	165	165	190	230	145	140	140	190	10
PV	8	9	9	10	9	9	8	9	9	9	10	10	10	10	10	11	10	10	10	10	(VA)	(VA)	10	9	10

ADOUT (15 MAY 78)

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WIND DIRECTION

DEGREES
LEVEL HEIGHT : 10 METERS                              C-B OIL SHALE PROJECT, COLORADO     **********************
                                                                                         *                    *
                                                      SITE    42                         *     FINAL DATA     *
                                                                                         *  AS OF 09/JUN/78   *
                                                      MAR, 1978                          *                    *
                                                                                         **********************
                                                      AERDVIRONMENT INC.


                                       CLOCK HOUR  (LOCAL STANDARD TIME)

DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23   PREV

  1   105   115   130   130    90   105   120   120   120   145   160   175   235   215   185   210   225   230   150    95    95    95   105   125      6
  2   145   105    95   105   120    90    90    75    95  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)      5
  3  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
  4  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
  5  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
  6  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
  7  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
  8  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
  9  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 10  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 11  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 12  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 13  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   310   300   275   225   130   145   285   310   150     14
 14   175   105   100   100    95    85   275   295   305   295   295   105   340   320   305   315   320    60   280   300   300   235   320   300     14
 15   290   165   150    90    95    95   105    90    85    90   155   300   310   310   305   305   310   310   315   295   200   100   100    75   (VA)
 16    90   100   105   100   100    90    85    85  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)      5
 17  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 18  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 19  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 20  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 21  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 22  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 23  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 24  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 25  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 26  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 27  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   155   210   205   225   235   250   230   150   120   110   125    75    80     11
 28   105    80   100    75   225   150   115    95   150  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)      5
 29  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 30  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )
 31  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   (  )

 PV     6     6     5     5     5     5     6     5     5  (VA)     8     9    15  (VA)    15    15    15    11     8  (VA)  (VA)     5  (VA)     8      6

AQOUT    (15 MAY 78)
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WIND DIRECTION

DEGREES
LEVEL HEIGHT : 10 METERS

C-H OIL SHALE PROJECT, COLORADO

SITE 56

MAR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 09/JUN/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	95	90	95	95	85	85	95	85	95	95	100	95	125	200	160	135	165	215	195	95	115	110	115	115	6
2	130	40	85	100	90	105	105	105	115	250	295	270	200	230	215	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	6
3	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )
4	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	285	150	140	140	110	105	90	105	100	100	100	120	6
5	90	105	125	115	125	100	90	110	95	120	110	170	165	165	165	170	130	175	190	135	95	120	110	115	6
6	130	130	115	125	135	110	215	285	305	310	305	315	315	320	335	345	10	0	175	135	145	130	245	305	15
7	205	170	240	240	165	245	210	235	285	200	295	295	305	265	275	340	300	270	150	135	140	100	120	120	13
8	90	95	110	120	110	130	100	115	95	50	45	75	90	100	110	135	160	145	150	145	110	105	85	80	6
9	95	65	75	90	75	125	110	55	30	25	105	130	155	140	155	145	155	155	150	120	125	120	110	110	6
10	120	130	125	145	120	155	145	140	130	80	320	300	300	355	300	140	325	325	235	320	220	185	(IM)	(IM)	7
11	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	175	105	160	160	155	165	180	155	145	150	110	90	100	85	8
12	105	115	110	85	85	120	115	120	85	115	105	105	145	150	165	185	180	165	210	190	195	290	195	125	6
13	100	105	115	150	200	240	180	160	100	100	265	90	315	150	60	65	275	195	135	120	140	145	120	120	6
14	105	125	110	110	110	110	105	65	75	245	285	300	295	325	155	310	295	305	290	225	165	205	285	200	14
15	145	105	100	130	120	130	115	105	55	60	75	10	305	305	305	310	310	300	220	160	135	120	135	135	7
16	115	110	100	100	105	110	120	110	65	45	45	105	125	145	150	140	120	125	130	120	110	115	90	115	6
17	115	130	125	125	130	125	130	95	40	45	80	130	155	175	175	160	145	125	135	130	100	110	110	110	6
18	95	120	125	125	125	105	140	140	65	90	165	175	175	180	165	170	175	135	110	115	130	135	135	135	7
19	95	95	125	120	95	105	130	125	75	100	155	155	145	165	250	225	250	140	115	135	75	120	125	110	6
20	115	110	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	55	65	70	70	110	75	235	300	265	175	160	125	125	140	130	115	7
21	110	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	60	55	135	150	155	165	170	170	170	165	140	150	100	100	100	85	100	8
22	130	125	105	140	115	125	130	130	145	190	190	80	100	110	130	150	130	90	100	90	90	100	100	115	7
23	100	120	165	135	145	145	140	130	70	115	165	125	85	200	60	90	90	85	155	125	95	195	120	105	7
24	125	90	95	155	140	160	255	230	180	205	115	90	45	70	80	50	130	55	95	120	(IM)	(IM)	(IM)	(IM)	5
25	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	135	65	80	270	280	300	285	275	170	130	115	125	105	110	7
26	130	130	150	145	(IM)	(IM)	(IM)	(IM)	85	50	75	75	50	170	260	70	120	130	140	120	115	115	115	110	6
27	115	115	85	90	105	125	135	105	65	60	45	95	160	170	165	180	215	170	115	110	115	125	130	130	6
28	120	130	155	145	160	180	160	125	100	65	90	300	320	245	300	330	55	50	50	110	120	100	140	140	7
29	115	150	120	130	130	140	115	95	55	85	60	70	85	135	150	160	160	180	160	105	115	125	105	110	6
30	115	110	110	100	85	100	95	60	40	90	155	155	155	145	180	210	205	175	160	130	120	110	105	95	6
31	110	90	90	100	105	130	110	95	135	160	160	160	170	180	180	185	130	115	115	170	200	120	115	115	6
PV	6	6	6	7	6	6	6	6	4	4	8	5	8	8	8	9	7	7	7	6	6	6	6	6	6

AQOUT (15 MAY 78)

TEMPERATURE AT LEVEL 2

DEGREES CELSIUS
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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*                      *
*      FINAL DATA      *
*   AS OF 09/JUN/78    *
*                      *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	2	2	3	3	3	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	3	3
2	(RF)	(RF)	(RF)	(HF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	2	-2	-4	-4	-6	-6	-7	-7	-8	-8	-8	-5	2
3	-8	-8	-8	-9	-10	-10	-11	-11	-11	-10	-10	-9	-8	-8	-7	-7	-7	-7	-8	-8	-8	-8	-8	-8	-9	-7
4	-8	-8	-9	-9	-10	-10	-9	-8	-2	1	1	2	3	3	3	2	1	1	1	1	1	1	1	1	-2	3
5	1	1	1	1	1	1	1	1	1	1	2	3	3	3	3	3	3	3	1	0	0	0	-1	0	1	3
6	0	0	-1	-1	-1	-1	-2	-1	0	1	1	1	2	-1	-1	-1	2	1	1	1	0	0	0	0	0	2
7	0	-1	-1	-1	-1	-1	-1	-1	-1	1	1	1	3	3	3	4	4	3	3	4	0	-1	-1	-2	1	4
8	-2	-3	-2	-2	-3	-3	-3	-3	-1	2	5	5	6	6	6	6	6	5	3	3	2	3	2	1	2	6
9	1	1	1	1	1	1	0	0	3	6	6	7	7	6	7	6	6	7	6	5	3	3	3	2	4	7
10	1	2	1	1	1	0	0	0	-1	1	2	3	4	4	5	4	1	1	0	0	0	-1	-1	-1	1	5
11	-1	-2	-2	-3	-3	-3	-3	-3	-2	0	1	1	3	3	3	3	3	2	1	0	0	0	0	0	-0	3
12	0	-1	-1	-1	-1	-1	-2	-1	-1	1	1	1	1	1	2	2	1	0	-1	-1	-2	-1	-2	-2	-0	2
13	-2	-3	-2	-2	-3	-3	-4	-4	-3	-1	-1	0	-1	-1	-1	1	0	-1	-3	-2	-2	-1	-3	-3	-2	1
14	-5	-4	-5	-4	-6	-4	-6	-6	-5	-5	-4	-4	-5	-3	-3	-2	-4	-5	-6	-6	-7	-7	-8	-8	-5	-2
15	-8	-9	-10	-9	-9	-10	-10	-10	-9	-6	-4	-4	-3	-2	-1	-1	-1	-1	-2	-3	-6	-6	-8	-6	-6	-1
16	-7	-8	-8	-8	-8	-7	-7	-7	-4	-1	0	1	2	3	3	3	4	3	1	-1	-1	-1	-2	-2	-2	4
17	-2	-2	-1	-2	-2	-2	-1	-1	3	5	6	6	7	7	8	8	8	7	5	5	3	3	3	2	3	8
18	3	3	3	3	3	3	3	3	6	8	8	9	9	9	10	10	10	8	6	6	5	4	4	4	6	10
19	4	4	3	3	3	4	4	6	7	8	8	8	7	6	7	7	5	3	3	1	1	0	1	1	4	8
20	1	1	-1	0	0	-1	-1	0	3	4	6	7	7	7	8	8	9	10	7	5	4	4	3	3	4	10
21	3	3	3	1	1	2	2	3	5	7	8	9	9	10	10	10	10	9	8	6	6	6	6	6	6	10
22	5	6	6	4	4	4	4	4	3	3	5	5	3	3	3	0	1	1	1	1	1	1	1	1	3	6
23	1	1	1	1	1	1	1	2	3	4	3	1	5	6	3	3	3	4	4	3	3	3	1	1	2	6
24	1	2	2	2	3	1	0	0	0	0	0	1	3	3	1	1	1	1	0	0	-1	-1	-1	-1	1	3
25	-1	-3	-3	-4	-5	-4	-5	-3	-1	1	3	3	4	6	6	6	6	6	6	4	3	2	1	1	1	6
26	1	1	-1	0	-1	-2	-1	-1	3	6	7	8	9	10	10	10	10	9	8	6	6	6	6	3	5	10
27	3	4	3	3	3	3	2	3	6	10	10	11	12	13	13	13	13	13	10	9	8	7	6	6	8	13
28	6	4	4	4	2	2	2	3	4	7	9	10	12	13	13	13	13	12	10	8	7	6	4	4	7	13
29	4	3	3	2	3	2	2	3	7	10	13	14	14	14	15	15	15	13	10	10	8	6	6	8	8	15
30	8	7	6	6	5	6	6	8	11	12	13	13	13	15	14	15	13	13	10	10	9	10	10	8	10	15
31	7	8	8	7	6	6	6	8	10	10	12	13	13	13	15	14	14	13	10	7	5	4	6	5	9	15
AV	0	-0	-0	-1	-1	-1	-1	-1	1	3	4	4	5	5	5	5	5	4	3	2	1	1	1	1	2	( )
SD	4	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6	6	6	5	5	4	4	5	4	4	( )

AQOUT (15 MAY 78)

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TEMPERATURE AT LEVEL 3
DEGREES CELSIUS
LEVEL HEIGHT : 30 METERS                                    C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                                 *                   *
                                                            SITE   23                            *     FINAL DATA    *
                                                                                                 *  AS OF 09/JUN/78  *
                                                            MAR, 1978                            *                   *
                                                                                                 *********************
                                                            AEROVIRONMENT INC.



                                         CLOCK HOUR  [LOCAL STANDARD TIME]

DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23    AVE PEAK

  1 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  2 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  3 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  4 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  5 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
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  7 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  8 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
  9 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 10 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 11 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 12 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 13 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 14 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 15 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 16 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 17 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 18 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 19 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 20 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 21 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 22 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 23 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 24 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 25 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 26 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 27 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 28 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 29 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 30 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]
 31 [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]   [ ] [ ]

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AQOUT    [15 MAY 78]
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TEMPERATURE AT LEVEL 4

DEGREES CELSIUS
LEVEL HEIGHT : 60 METERS
                                                             C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                                  *                    *
                                                             SITE   23                            *     FINAL DATA     *
                                                                                                  *  AS OF 09/JUN/78   *
                                                             MAR, 1978                            *                    *
                                                                                                  **********************
                                                             AEROVIRONMENT INC.


                                       CLOCK HOUR  (LOCAL STANDARD TIME)

.DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23    AVE PEAK

  1  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  2  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  3  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  4  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  5  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
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  7  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  8  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
  9  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
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 12  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 13  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 14  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 15  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 16  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 17  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 18  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
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 20  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 21  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
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 23  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 24  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 25  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 26  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 27  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
 28  [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM] [IM]  [  ] [  ]
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ADOUT    [15 MAY 78]
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TEMPERATURE

DEGREES CELSIUS
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 42

MAR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 09/JUN/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	-2	-1	-1	-1	-1	-1	-1	0	1	2	3	3	5	3	3	2	2	1	0	0	-1	-1	-1	-1	1	5
2	-2	-2	-2	-3	-3	-3	-3	-3	-1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-2	-1
3	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
4	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
6	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
8	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
9	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
10	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
11	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
12	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
13	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	0	-1	-2	-3	-4	-3	-4	-5	-2	1
14	-5	-7	-8	-10	-11	-10	-8	-4	-8	-7	-5	-6	-7	-3	-3	-3	-5	-6	-8	-9	-9	-10	-11	-12	-7	-3
15	-11	-11	-12	-14	-13	-15	-16	-17	-14	-7	-3	-5	-4	-4	-2	-2	-2	-3	-5	-6	-8	-10	-12	-13	-9	-2
16	-15	-16	-15	-17	-17	-17	-17	-12	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-16	-12
17	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
18	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
19	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
20	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
21	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
22	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
23	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
24	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
25	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
26	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
27	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	11	12	12	12	11	11	8	2	0	-1	-1	-1	-52	2	12
28	-1	-2	-2	-3	-3	-4	-4	-3	2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-2	2
29	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
30	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
31	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
AV	-6	-6	-7	-8	-8	-8	-8	-7	-4	-4	-2	1	1	2	2	2	1	-0	-3	-4	-5	-5	-6	-17	-5	( )
SD	5	5	5	6	6	6	6	6	6	4	3	7	7	6	6	5	5	5	4	3	3	4	5	18	5	( )

ADOUT (15 MAY 78)

TEMPERATURE

DEGREES CELSIUS
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 56

MAR, 1978

AERОVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 09/JUN/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	-2	-2	-2	-2	-1	-2	-1	-2	-2	-2	-2	1	2	4	4	3	3	3	1	0	0	-2	-2	-3	-0	4
2	-2	-1	-2	-3	-3	-3	-4	-4	-3	-3	-2	-1	2	1	-2	-5	-5	-6	-7	-8	-9	-10	-10	-10	-4	2
3	-9	-9	-10	-11	-12	-12	-13	-13	-13	-13	-13	-13	-11	-10	-10	-10	-10	-10	-10	-11	-12	-13	-14	-14	-11	-9
4	-15	-16	-16	-16	-17	-19	-20	-21	-19	-12	-12	-9	-1	4	4	3	2	1	0	-1	-1	-1	-2	-2	-8	4
5	0	0	0	0	0	0	0	-1	0	0	0	1	3	4	4	3	4	3	1	-3	-5	-6	-8	-8	-0	4
6	-6	-5	-4	-4	-4	-4	-4	-4	-3	-2	-2	-1	1	2	1	1	1	1	0	-1	-2	-4	-3	-1	-2	2
7	-1	-3	-3	-3	-4	-4	-4	-4	-3	-1	-2	-1	0	1	1	2	2	1	0	-2	-3	-4	-4	-5	-2	2
8	-6	-9	-9	-10	-11	-12	-12	-12	-10	-6	-1	3	8	7	8	8	8	7	3	-1	-4	-6	-6	-7	-3	8
9	-5	-6	-5	-6	-6	-6	-7	-7	-5	-2	3	6	9	9	9	8	7	6	4	1	-1	-3	-5	-5	-0	9
10	-4	-4	-4	-6	-6	-6	-7	-7	-7	-2	-1	-1	4	5	5	5	2	0	0	-2	-2	-3	-4	-4	-2	5
11	-4	-5	-5	-5	-6	-6	-7	-8	-8	-5	-2	1	5	4	4	4	4	3	1	-1	-2	-2	-2	-2	-2	5
12	-2	-2	-2	-3	-4	-4	-4	-4	-5	-3	-1	1	2	3	2	2	3	1	0	-2	-3	-4	-4	-5	-2	3
13	-4	-4	-4	-6	-6	-6	-6	-7	-6	-2	1	2	2	0	1	0	1	-1	-3	-5	-6	-7	-7	-7	-3	2
14	-7	-9	-12	-13	-14	-12	-11	-9	-8	-8	-8	-9	-6	-4	-3	-2	-5	-7	-8	-10	-10	-11	-12	-12	-9	-2
15	-13	-16	-16	-16	-17	-19	-21	-21	-18	-14	-7	-4	-4	-4	-3	-3	-3	-3	-5	-8	-10	-13	-15	-16	-11	-3
16	-16	-16	-16	-17	-17	-17	-17	-16	-14	-8	-3	2	5	5	5	5	5	3	0	-3	-6	-7	-8	-9	-7	5
17	-9	-9	-10	-10	-11	-11	-11	-10	-5	0	-4	9	10	10	10	10	10	8	5	0	-3	-4	-5	-6	-1	10
18	-6	-6	-6	-6	-6	-6	-7	-5	-1	4	8	9	10	11	11	11	11	10	6	4	3	0	-3	-3	2	11
19	-3	-3	-3	-4	-4	-3	-3	-3	0	5	9	9	10	8	7	6	5	3	1	1	0	-1	-2	-2	1	10
20	-3	-3	-4	-4	-4	-6	-6	-4	-2	0	4	6	10	9	10	10	9	9	8	5	1	-1	-3	-4	2	10
21	-3	-3	-4	-6	-6	-6	-6	-4	-1	3	8	10	11	10	10	10	11	10	7	3	1	0	0	0	2	11
22	1	0	0	-1	-3	-3	-2	-2	0	1	0	-1	1	2	4	0	-2	-2	-1	-2	-1	-4	-2	-2	-1	4
23	-1	-1	-1	-2	-3	-2	-2	-2	-1	2	1	1	5	5	2	2	2	2	1	0	0	0	0	0	0	5
24	-1	-2	-1	-2	-2	-2	-3	-3	-3	-2	0	4	7	6	5	1	1	0	-2	-2	-3	-4	-4	-4	-1	7
25	-4	-6	-7	-8	-9	-9	-9	-9	-9	-7	-3	0	1	6	7	7	7	7	4	1	-1	-2	-4	-6	-2	7
26	-5	-5	-6	-1	-7	-7	-7	-6	-3	1	5	8	10	11	10	11	11	10	7	3	0	-2	-3	-5	1	11
27	-3	-3	-3	-3	-3	-4	-4	-4	0	4	9	11	13	14	14	14	15	13	9	4	2	0	-2	-2	4	15
28	-1	-1	-1	-4	-4	-4	-5	-5	-1	4	7	10	12	13	14	14	13	13	10	4	2	-1	-3	-4	3	14
29	-4	-4	-5	-6	-6	-6	-6	-4	0	7	12	13	15	16	17	18	18	16	12	7	3	1	-2	-2	5	18
30	-2	-2	-2	-3	-4	-3	-4	-1	2	9	14	15	16	18	18	17	16	14	12	9	5	3	2	2	6	18
31	4	3	3	3	3	2	0	1	6	11	13	14	15	14	16	16	16	14	12	10	7	4	4	4	8	16
AV	-4	-5	-5	-6	-6	-7	-7	-6	-5	-1	1	3	5	6	6	6	5	4	2	-0	-2	-3	-4	-5	-1	( )
SD	4	5	5	5	5	5	5	5	6	6	7	7	6	6	6	7	7	6	6	5	4	4	4	4	4	( )

ADOUT (15 MAY 78)

DELTA T #2

DEGREES CELSIUS

(TEMP @ 60M - TEMP @ 10M)

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 09/JUN/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-.5	-.5	-.5	-.5	-.5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-.5	-.5
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-.6	-.7	-.7	-.7	-.7	-.7	-.7	-.6	-.6	-.6	-.6	-.7	-.6
3	-.6	-.7	-.7	-.7	-.7	-.6	-.8	-.8	-.7	-.6	-.6	-.6	-.9	-1.0	-1.1	-.7	-.7	.3	.3	-.3	.1	.4	.5	.6	-.4	.6
4	1.6	2.2	2.2	2.0	1.5	1.8	2.6	3.9	1.0	-.4	-.2	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.5	.5	3.9
5	-.5	-.4	-.3	-.4	-.3	-.4	-.5	-.5	-.6	-.6	-.2	.3	.5	-.3	-.5	-.4	-.5	-.4	.1	.5	.7	.2	.3	.2	-.2	.7
6	-.1	-.2	.2	.3	-.2	-.1	-.1	-.3	-.7	-.6	-.6	-.7	-.6	-.6	-.6	-.6	-.5	-.4	-.2	.1	-.2	-.3	-.4	-.3	-.3	.3
7	-.3	-.4	-.5	-.5	-.6	-.5	-.6	-.6	-.6	-.7	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.3	-.2	.2	.3	1.0	1.9	2.2	-.2	2.2
8	1.4	1.5	1.5	1.2	1.1	1.7	1.2	1.1	.5	.4	-.4	-.4	-.4	-.4	-.5	-.5	-.4	-.1	.8	.9	.9	1.0	1.1	1.4	.6	1.7
9	1.2	1.0	1.1	1.3	.7	.8	1.5	1.4	.5	-.4	-.1	-.4	-.3	-.3	-.4	-.3	-.3	-.3	.1	.3	.9	.9	.9	1.4	.5	1.5
10	.9	.5	1.1	.6	2.2	1.3	.9	.9	.4	-.3	-.4	-.5	-.6	-.6	-.5	-.5	-.6	-.6	-.5	-.4	-.3	-.4	-.3	-.4	.1	2.2
11	-.4	-.5	-.4	-.4	-.2	.1	-.1	.3	-.5	-.5	-.5	-.5	-.6	-.5	-.6	-.6	-.6	-.5	-.3	-.2	-.2	-.2	-.3	-.4	-.4	.3
12	-.2	-.3	-.3	-.2	.1	.0	.3	.3	-.3	-.4	-.6	-.6	-.6	-.6	-.5	-.2	-.6	-.6	-.5	.1	-.2	-.2	-.5	-.4	-.3	.3
13	-.3	-.4	-.3	-.5	-.6	-.5	-.8	-.5	-.8	-.7	-.8	-.7	-.7	-.7	-.7	-.5	-.2	-.6	-.1	.2	-.2	-.3	-.2	-.5	-.5	.2
14	.6	.5	.2	.4	.4	.0	-.2	-.6	-.7	-.7	-.8	-.9	-.9	-.8	-.8	-.7	-.5	-.7	-.7	-.7	-.6	-.3	-.6	-.5	-.4	.6
15	-.1	-.1	.9	.6	.8	.2	.1	-.2	-.3	-.7	-.7	-.8	-.8	-.7	-.5	-.1	-.3	-.3	-.1	.3	.7	1.2	.9	.3	.0	1.2
16	.9	2.7	2.3	2.3	2.0	.9	.7	1.6	.1	-.8	-.7	-.6	-.5	-.5	-.6	-.6	-.6	-.3	.4	1.6	1.7	1.6	2.0	1.4	.7	2.7
17	1.5	1.9	1.9	2.2	1.6	1.9	1.2	1.3	-.3	-.5	-.5	-.5	-.4	-.5	-.5	-.4	-.4	-.1	.5	1.2	1.1	1.4	1.7	2.5	.7	2.5
18	1.4	1.0	1.0	.3	.6	.4	.8	1.1	-.3	-.4	-.2	-.1	.2	-.2	-.2	.0	-.5	.0	.3	.7	1.0	1.1	1.7	1.6	.5	1.7
19	1.5	1.4	2.5	2.5	2.4	1.9	1.5	.5	-.2	-.4	-.6	-.3	-.4	-.6	-.3	-.3	-.3	-.3	-.3	-.5	-.3	.3	.5	1.0	.5	2.5
20	.6	.3	1.0	1.4	1.3	1.4	1.0	.7	-.2	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.1	.2	1.0	.9	.5	1.1	1.1	.4	1.4
21	1.0	.7	1.2	2.0	2.4	1.4	1.7	.4	-.3	-.5	-.5	-.6	-.5	-.6	-.6	-.5	-.3	-.1	.2	1.9	1.1	1.3	1.1	.8	.5	2.4
22	.9	1.5	1.1	2.0	.9	.4	.1	-.1	-.3	-.5	-.5	-.3	-.5	-.5	-.4	-.3	-.2	-.2	-.1	-.1	.2	-.1	.1	-.2	.1	2.0
23	.2	-.1	.1	.0	-.1	.6	.4	.0	-.2	-.6	.1	-.5	-.6	-.6	-.3	.1	.3	.2	.3	.8	.3	-.2	.3	.5	.0	.8
24	.9	.4	.5	1.0	.7	.5	-.2	-.3	-.5	-.6	-.6	-.6	-.5	-.6	-.6	-.6	-.7	-.7	-.3	-.1	.1	.4	.1	1.0	-.1	1.0
25	.7	.9	.6	2.1	2.0	1.4	1.9	1.8	.4	-.6	-.7	-.7	-.6	-.5	-.5	-.5	-.6	-.4	-.4	.7	1.7	1.2	1.4	1.4	.5	2.1
26	.9	1.7	1.7	1.0	1.4	2.4	1.6	1.3	-.3	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.3	.6	1.6	2.0	.6	1.1	1.6	.6	2.4
27	1.4	1.7	1.8	1.9	1.8	1.7	1.7	.8	-.4	-.6	-.6	-.6	-.6	-.7	-.7	-.6	-.5	-.1	1.1	1.8	1.1	1.1	1.0	1.0	.6	1.9
28	1.0	2.0	2.4	1.5	1.5	.7	.9	.9	-.2	-.7	-.7	-.7	-.8	-.7	(MT)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	.5	2.4
29	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	( )	( )
30	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	( )	( )
31	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	( )	( )
AV	.6	.7	.9	.9	.9	.7	.6	.6	-.2	-.5	-.5	-.5	-.5	-.6	-.5	-.4	-.4	-.3	.0	.4	.5	.4	.6	.6	.1	( )
SD	.7	1.0	1.0	1.0	1.0	.9	.9	1.0	.4	.2	.2	.2	.3	.2	.2	.2	.2	.3	.4	.8	.7	.7	.8	.9	.4	( )

ADOUT (15 MAY 78)

RELATIVE HUMIDITY AT LEVEL 1

PERCENT
LEVEL HEIGHT : 1 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 09/JUN/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	79	77	78	80	80	80	80	82	81	79	77	74	69	69	72	75	71	74	80	79	79	80	83	85	78	85
2	90	91	92	92	92	92	91	88	85	86	84	84	84	86	88	89	90	90	90	90	90	90	90	90	89	92
3	90	90	90	90	90	90	90	90	89	88	84	78	76	75	72	75	83	86	88	89	90	90	90	90	86	90
4	90	90	90	90	92	92	91	92	86	66	62	55	52	54	60	64	70	75	78	80	82	80	80	79	77	92
5	79	80	79	78	79	81	83	83	83	77	71	66	61	62	61	59	55	61	69	79	81	82	84	85	74	85
6	85	85	86	87	90	95	95	92	78	78	81	75	62	62	63	67	68	71	78	82	84	84	84	85	80	95
7	86	86	86	87	89	92	93	91	80	58	53	49	45	41	40	39	38	47	56	75	81	84	85	86	69	93
8	86	79	79	79	76	76	76	70	59	49	31	28	25	29	30	30	34	37	48	52	54	58	60	63	54	86
9	65	65	67	68	68	69	72	71	62	44	42	40	37	39	41	43	43	45	48	56	59	68	73	74	57	74
10	74	75	76	79	79	81	83	83	83	73	78	61	57	56	47	48	80	87	90	95	95	95	95	94	78	95
11	95	95	94	94	94	92	92	90	90	81	62	53	48	45	45	45	45	50	68	70	78	81	80	82	74	95
12	84	85	91	91	91	91	89	88	86	80	67	59	58	55	56	53	56	61	64	68	80	90	90	90	76	91
13	91	91	92	92	92	91	86	87	79	65	60	54	45	57	64	59	50	60	67	68	71	63	60	63	71	92
14	67	67	67	67	67	68	69	85	89	89	85	76	76	80	65	53	46	67	72	88	90	90	90	90	75	90
15	81	81	83	84	83	83	83	84	79	73	62	48	46	39	35	33	33	33	37	46	55	65	69	67	62	84
16	67	68	69	68	68	68	67	65	59	50	39	33	30	27	27	30	30	34	35	40	50	56	59	61	50	69
17	62	62	62	61	60	60	57	57	55	43	33	28	28	30	31	32	33	33	36	40	51	54	55	56	47	62
18	56	57	56	57	54	53	53	52	52	48	37	34	33	32	31	30	29	28	29	37	40	44	46	46	43	57
19	47	51	54	54	55	55	57	56	55	47	43	46	47	52	59	63	67	78	86	88	88	88	89	92	63	92
20	92	92	92	92	92	92	91	91	91	80	65	53	47	48	47	45	46	46	37	42	57	67	73	77	69	92
21	81	82	80	73	69	70	69	69	76	66	53	44	37	36	38	38	36	33	33	35	45	53	53	54	55	82
22	54	57	60	61	62	67	66	67	70	73	78	86	90	90	82	70	77	90	89	84	83	86	88	89	76	90
23	86	84	84	85	86	85	87	87	87	87	72	67	91	81	62	58	80	85	82	83	83	83	84	88	82	91
24	91	91	91	90	88	88	88	90	95	96	96	95	85	70	52	80	78	82	81	87	91	93	93	93	87	96
25	93	93	93	93	91	91	91	90	86	72	51	38	37	37	39	37	36	37	38	50	63	67	72	76	65	93
26	76	77	78	81	81	82	83	82	69	56	47	41	38	35	32	29	30	32	36	44	49	54	58	60	56	83
27	60	58	56	58	58	58	58	56	50	42	36	31	27	26	27	26	24	25	31	42	48	53	55	55	44	60
28	58	59	64	65	68	71	76	79	73	59	49	45	39	32	31	29	28	28	28	35	41	44	50	54	50	79
29	60	64	64	67	68	68	69	70	65	55	45	34	26	23	22	20	21	22	24	34	45	46	46	50	46	70
30	49	47	49	55	55	58	62	66	61	44	38	36	33	33	31	30	30	31	34	39	45	51	56	57	45	66
31	58	62	69	69	68	70	74	75	71	50	46	(RF)	(RF)	(RF)	(RF)	39	39	41	46	51	78	90	90	82	63	90
AV	75	76	76	77	77	78	78	78	75	66	59	54	51	50	48	48	50	54	57	63	69	72	74	75	66	( )
SD	15	14	13	13	13	13	12	12	13	16	18	18	20	19	17	18	20	22	22	21	18	17	16	15	14	( )

AQOUT (15 MAY 78)

BAROMETRIC PRESSURE

MM OF HG

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 09/JUN/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	595	594	594	594	593	593	593	592	592	592	592	592	592	591	591	591	591	591	592	592	592	592	592	592	592	595
2	592	593	593	593	593	593	593	593	594	594	594	594	594	593	593	593	593	594	594	594	594	594	593	593	593	594
3	593	592	592	592	592	593	593	593	594	594	594	594	594	594	594	594	594	594	595	595	596	596	596	596	594	596
4	596	596	597	597	597	597	597	597	597	596	596	597	595	595	594	594	594	594	593	593	593	593	593	593	595	597
5	593	593	593	592	592	592	592	592	593	593	593	593	593	593	593	593	593	593	594	594	594	594	595	595	593	595
6	595	595	595	595	595	596	596	597	597	598	598	598	598	598	598	598	598	598	599	600	601	601	601	602	598	602
7	602	602	602	603	603	603	604	604	604	604	604	604	604	604	604	603	604	604	604	604	604	604	604	604	604	604
8	605	604	604	604	604	604	604	604	604	604	604	604	603	603	602	602	602	602	601	601	602	602	602	602	603	605
9	601	601	601	600	600	600	600	601	601	601	600	600	599	598	598	598	598	598	598	598	598	597	597	597	599	601
10	597	596	595	595	595	595	595	595	594	594	594	594	594	594	593	593	594	594	595	595	595	595	595	595	595	597
11	595	596	596	596	596	596	596	596	596	597	597	597	596	595	595	595	594	594	594	594	594	594	593	593	595	597
12	593	593	592	592	592	591	591	591	591	590	590	590	590	590	589	590	590	590	591	591	592	592	592	592	591	593
13	592	593	593	593	593	594	594	594	595	(MT)	594	590	594	594	593	593	593	594	593	594	594	594	594	594	593	595
14	594	594	594	594	594	594	594	595	595	595	595	595	595	595	595	595	596	596	597	597	597	598	598	598	595	598
15	598	599	599	599	600	600	600	600	601	601	602	602	602	601	601	601	601	601	601	602	602	603	603	604	601	604
16	604	604	604	604	604	604	604	604	605	605	605	605	605	605	605	605	604	604	604	605	605	605	605	605	605	605
17	605	605	605	605	605	605	605	605	605	606	606	605	605	604	604	604	603	603	603	603	603	603	603	602	604	606
18	602	602	602	602	602	602	602	602	602	602	602	602	601	601	600	600	600	599	599	599	599	600	600	600	601	602
19	599	599	599	599	599	599	599	599	599	599	599	599	599	599	599	598	598	598	598	598	598	599	599	599	599	599
20	599	599	599	599	599	599	599	599	599	599	599	599	599	599	599	599	(MT)	599	599	599	599	600	600	600	599	600
21	600	(RF)	(NF)	(NF)	(RF)	(RF)	(NF)	(RF)	(RF)	(RF)	(NF)	(RF)	(NF)	598	598	597	597	597	597	597	597	597	596	596	597	600
22	596	595	595	595	595	594	594	594	594	594	594	594	594	594	594	594	595	595	594	594	594	595	595	595	594	596
23	594	594	594	594	594	594	594	594	594	594	595	595	595	595	595	595	595	595	595	595	595	595	596	596	595	596
24	596	596	596	596	595	595	595	596	597	596	598	598	599	599	599	599	599	600	600	600	601	601	602	602	599	602
25	602	602	602	602	602	602	602	602	603	603	603	603	603	602	602	602	602	601	601	601	601	601	601	602	602	603
26	602	602	602	602	602	602	602	602	602	602	602	602	601	601	600	600	600	600	600	600	600	600	600	600	601	602
27	600	600	599	599	599	599	599	599	599	600	600	600	599	599	598	598	598	598	598	598	598	598	598	598	599	600
28	598	598	597	597	597	597	597	598	598	598	598	598	598	598	598	597	597	597	598	598	598	599	599	599	598	599
29	599	599	599	599	600	600	600	601	601	601	601	601	601	(RF)	(NF)	(RF)	600	600	600	600	600	601	600	601	600	601
30	601	601	601	601	601	601	601	601	601	601	600	599	599	599	599	599	599	599	598	599	599	599	599	599	600	601
31	599	598	598	598	598	598	598	598	598	598	598	597	597	597	596	596	596	595	595	595	596	596	595	595	597	599
AV	598	598	598	598	598	598	598	598	598	598	598	598	598	598	597	597	597	597	597	598	598	598	598	598	598	( )
SD	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	( )

ADOUT (15 MAY 78)

SOLAR RADIATION (SKY ONLY)

LANGLEY

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 09/JUN/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	TOT	PEAK
1	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
2	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
3	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
4	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
5	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
6	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
7	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
8	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
9	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
10	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
11	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
12	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
13	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
14	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
15	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
16	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
17	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
18	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
19	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
20	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
21	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
22	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
23	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
24	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
25	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
26	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
27	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
28	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
29	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
30	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	71	90	101	90	53	37	18	7	1	0	0	0	1	0	469	101
31	0	0	0	0	0	0	4	20	38	53	67	65	66	59	59	34	14	4	1	0	0	1	0	0	485	67
TT	0	0	0	0	0	0	4	20	38	53	138	155	167	149	112	71	32	11	2	0	0	1	1	0		[ ]

ADOUT [15 MAY 78]

PRECIPITATION
CM*100

CH-TRACT
TRAILER AB23
MAR 1978
OCCIDENTAL OIL SHALE INC.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TL	PEAK
1																									( )	
2	5								(TR)					8	8	28	10	5	13	(TR)					76	28
3	15	30	38	23	13	(TR)	3	8	5	5	3	3	3	3	3	3	(TR)	3							157	38
4																									( )	
5									(TR)	3															3	3
6							3	(TR)	(TR)	3	3	(TR)	(TR)	(TR)											8	3
7																									( )	
8																									( )	
9																									( )	
10																				8					8	8
11									(TR)	3	(TR)	(TR)	(TR)	(TR)											3	3
12			5	3	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3							13	(TR)	(TR)	3	25	13
13	(TR)	3	5	18	10	15	(TR)	3	(TR)	3															56	18
14								8	25	10	3	3	15	13	25				13	25	15		15		170	25
15																									( )	
16																									( )	
17																									( )	
18																									( )	
19																		13	13	23	15				63	23
20								(TR)	(TR)	(TR)	(TR)	3													3	3
21										3	(TR)														3	3
22												13	8		(TR)	3	13	13							48	13
23								(TR)	(TR)	(TR)	3	3	3	3	(TR)	3	13	3							28	13
24								25	51	25	13	18	5	5	(TR)										142	51
25										(TR)	3	3	3												8	3
26									(TR)	(TR)	(TR)	3													3	3
27																									( )	
28																									( )	
29																									( )	
30																									( )	
31																				25	(TR)	8			33	25
TL	20	33	48	43	23	15	5	43	81	53	25	46	36	33	36	36	36	36	38	81	43	8	15	3	836	
PK	15	30	38	23	13	15	3	25	51	25	13	18	15	13	25	28	13	13	13	25	15	8	15	3		51

PRECIPITATION
CM*100

CH-TRACT
TRAILER A820
MAR 1978
OCCIDENTAL OIL SHALE INC.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TL	PEAK
1	(TR)	3																							3	3
2		10	3						(TR)	3					5	8	15	10	10	3					66	15
3		5	15	36	20	13	10	3	8	5	5	3	3	3	5	(TR)	(TR)	(TR)							132	36
4																									( )	
5																									( )	
6						(TR)	8	3	3	3	(TR)						(TR)								15	8
7																									( )	
8																									( )	
9																									( )	
10																			5	(TR)	(TR)	(TR)	(TR)		5	5
11																					(TR)	(TR)	(TR)	(TR)	( )	
12		3	3	3																5	3		3	3	20	5
13	3	13	30	13	8	5	(TR)	(TR)	3					(TR)											74	30
14							3	13	10	10	5	13							25	15	10	(TR)	15		119	25
15																									( )	
16																									( )	
17																									( )	
18																									( )	
19																		10	13	15	30	3	(TR)	(TR)	71	30
20	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3	(TR)	3															5	3
21																									( )	
22											33	20	(TR)	3		23	18								97	33
23										(TR)	3	3	(TR)	3	33	8	3								51	33
24							15	46	25	38	8	5	3	(TR)	(TR)	3	(TR)	3							145	46
25											(TR)	3													3	3
26									(TR)	3	(TR)	3													5	3
27									(TR)	3	(TR)						(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	3	3
28	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
29	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
30	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
31	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
TL	3	33	51	51	28	18	36	66	43	66	53	48	5	8	43	41	36	23	53	38	43	3	18	3	813	
PK	3	13	30	36	20	13	15	46	25	38	33	20	3	3	33	23	18	10	25	15	30	3	15	3		46

```
MIXING HEIGHT

METERS
                                                   C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                        *                   *
                                                   SITE   20                            *     FINAL DATA    *
                                                                                        *  AS OF 09/JUN/78  *
                                                   MAR, 1978                            *                   *
                                                                                        *********************
                                                   AEROVIRONMENT INC.



                                     CLOCK HOUR  (LOCAL STANDARD TIME)


DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23     AVE PEAK

  1  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
  2  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
  3  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
  4  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
  5  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
  6  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
  7  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
  8  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
  9  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
 10  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
 11  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
 12  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
 13  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
 14  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
 15  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)    [ ] [ ]
 16  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)    30  (OS)    30    30    30    30     30   30
 17    30    30    30    30    30    30    30    30    30    30  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)    30    30    30    30  (RF)  (RF)     30   30
 18  (RF)  (RF)  (RF)  (RF)  (RF)    30    30    30    30  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)    30    30    30    30    30    30    30     30   30
 19    30    30    30    30    30    30    30    30    30    30  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)     30   30
 20  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)    [ ] [ ]
 21  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)    [ ] [ ]
 22  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)    30    30  (OS)  (OS)    30    30    30    30    30    30    30    30    30     30   30
 23    30    30    30    30    30    30    30    30    30  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)   110    30    30    30    30    30    30     35  110
 24    30    30    30    30    30    30    30  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    30    30    30    30    30    30     30   30
 25    30    30    30    30    30    30    30    30    30    30  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)    30    30    30    30    30    30     30   30
 26    30    30    30    30    30    30    30    30    30    30  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)    30    30    30    30    30    30     30   30
 27    30    30    30    30    30    30    30    30    30  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)    30    30    30    30    30    30     30   30
 28    30    30    30    30    30    30    30    30  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)    30    30    30    30    30    30     30   30
 29    30    30    30    30    30    30    30    30    30    30  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)    30    30    30    30    30    30     30   30
 30    30    30    30    30    30    30    30    30    30    30  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)    30    30    30    30    30    30     30   30
 31    30    30    30    30    30    30    30    30  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)  (OS)    30    30    30    30    30    30     30   30

 AV    30    30    30    30    30    30    30    30    30    30  [  ]    30    30  [  ]  [  ]    30    30    57    30    30    30    30    30    30     30 [ ]
 SD     0     0     0     0     0     0     0     0     0     0  [  ]     0     0  [  ]  [  ]     0     0    38     0     0     0     0     0     0      0 [ ]

AOOUT     (15 MAY 78)
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INVERSION HEIGHT

METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

MAR, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*  AS OF 09/JUN/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
2	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
3	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
4	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
5	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
6	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
7	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
8	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
9	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
10	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
11	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
12	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
13	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
14	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
15	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )	( )
16	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	120	160	240	200	190	160	178	240
17	180	190	170	190	190	190	170	150	150	100	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	200	190	210	260	(RF)	(RF)	181	260
18	(RF)	(RF)	(RF)	(RF)	(RF)	390	320	280	200	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	200	330	320	320	270	250	288	390
19	260	300	310	280	300	310	280	240	160	70	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	251	310
20	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
21	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
22	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	190	140	(NV)	(NV)	130	200	190	170	160	110	160	150	150	159	200
23	290	410	360	310	360	300	270	180	100	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	230	200	160	150	240	250	280	256	410
24	210	140	170	170	170	160	170	140	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	240	130	160	260	200	190	179	260
25	170	200	180	200	210	200	190	190	170	120	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	70	150	200	230	200	200	180	230
26	180	180	190	210	240	160	210	180	140	90	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	150	170	210	170	170	190	177	240
27	190	170	160	170	180	190	220	220	100	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	90	140	200	230	210	170	176	230
28	200	180	150	170	210	190	170	160	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	60	130	180	180	240	210	174	240
29	170	190	190	210	200	220	200	160	80	50	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	100	220	240	210	200	190	177	240
30	210	240	290	300	290	280	220	240	200	160	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	90	140	170	180	180	150	209	300
31	150	220	340	330	240	220	300	160	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	120	140	200	300	430	270	244	430
AV	201	220	228	231	235	234	227	192	144	98	( )	190	140	( )	( )	130	200	210	139	171	199	226	224	201	200	( )
SD	39	72	76	59	56	68	51	42	41	35	( )	0	0	( )	( )	0	0	20	56	52	49	48	70	43	40	( )

AQOUT (15 MAY 78)

STABILITY TYPE AT LEVEL 1

0=STABLE, 1=UNSTABLE
LEVEL HEIGHT : 50 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

MAR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 09/JUN/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
2	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
3	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
4	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
5	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
6	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
7	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
8	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
9	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
10	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
11	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
12	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
13	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
14	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
15	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	( )
16	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	(OR)	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
17	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	(RF)	(RF)	1
18	(RF)	(RF)	(RF)	(RF)	(RF)	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1
19	0	0	0	0	0	0	0	0	0	0	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1
20	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )
21	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )
22	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	0	0	1	1	0	0	0	0	0	0	0	0	0	1
23	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1
24	0	0	0	0	0	0	0	0	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	0	0	0	0	0	0	1
25	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
26	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
27	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
28	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
29	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
30	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
31	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
PV	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

AQOUT (15 MAY 78)

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STABILITY TYPE AT LEVEL 2

0=STABLE, 1=UNSTABLE
LEVEL HEIGHT :200 METERS                       C-B OIL SHALE PROJECT, COLORADO     *********************
                                                                                   *                   *
                                               SITE   20                           *     FINAL DATA    *
                                                                                   *  AS OF 09/JUN/78  *
                                               MAR, 1978                           *                   *
                                                                                   *********************
                                               AEROVIRONMENT INC.


                              CLOCK HOUR  (LOCAL STANDARD TIME)

DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23   PREV

  1  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
  2  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
  3  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
  4  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
  5  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
  6  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
  7  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
  8  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
  9  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
 10  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
 11  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
 12  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
 13  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
 14  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
 15  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (  )
 16  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)  (OR)     1     1     1     1     1     1     1     1     1     1     1     0     1     1     1     1
 17     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1  (RF)  (RF)     1
 18  (RF)  (RF)  (RF)  (RF)  (RF)     0     0     0     1     1     1     1     1     1     1     1     1     1     1     0     0     0     0     0     1
 19     0     0     0     0     0     0     0     0     1     1  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)     1
 20  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (  )
 21  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (  )
 22  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)     1     1     1     1     1     1     1     1     1     1     1     1     1     1
 23     0     0     0     0     0     0     0     1     0     1     1     1     1     1     1     1     1     0     1     1     1     0     1     0     1
 24     0     1     1     1     1     1     1     1  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)     0     1     1     0     1     1     1
 25     1     1     1     1     0     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     0     1     1     1
 26     1     1     1     0     0     1     0     1     1     1     1     1     1     1     1     1     1     1     1     1     0     1     1     1     1
 27     1     1     1     1     1     1     1     0     0     0     1     1     1     1     1     1     1     1     1     1     1     0     0     1     1
 28     1     1     1     1     0     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     0     0     1
 29     1     1     1     0     1     0     1     1     1     1     1     1     1     1     1     1     1     1     1     0     0     0     1     1     1
 30     0     0     0     0     0     0     0     0     0     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1
 31     1     0     0     0     0     0     0     1     0     1     1     1     1     1     1     1     1     1     1     1     1     0     0     0     1

 PV     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1

ADOUT     (15 MAY 78)
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C-R PIBAL SOUNDING                            RUN ON 09/JUN/78

SOUNDING DATE  3- 1-78

BALLOON RELEASED  800 CST


BASE LINE ANGLE              78.4
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)      -100.0

               THEODOLITE #1             THEODOLITE #2


   TIME      AZIMUTH  FLEVATION        AZIMUTH  ELEVATION   TEMP
    .0           .0        .0           258.5        .0
    .5        325.2      50.2           261.1       3.8
   1.0        307.2      50.2           265.9       7.0
   1.5          3.2      42.2           272.2      11.7
   2.0         12.2      42.1           283.8      16.0
   2.5         19.5      28.1           297.5      19.6
   3.0         36.5      25.5           310.9      22.0
   3.5         37.0      22.3           324.6      24.1
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1       40.4       5.2
     2      180.4       5.6
     3      134.1       6.2
     4      569.0       7.0
     5      233.7       7.8
     6      580.8       7.6
     7      488.7       8.6


           HEIGHT  DIRECTION  SPEED  TEMP
            FEET    DEGREES   FT/SEC

            293.      168      10.0
            678.      191      17.5
           1076.      200      26.2
           1645.      207      37.9
           1721.      235      40.9
           1694.      243      36.4


           HEIGHT  DIRECTION  SPEED  TEMP
           METERS   DEGREES   M/SEC

             89.      168       3.0
            207.      191       5.3
            328.      200       8.0
            501.      207      11.6
            524.      235      12.5
            516.      243      11.1
```
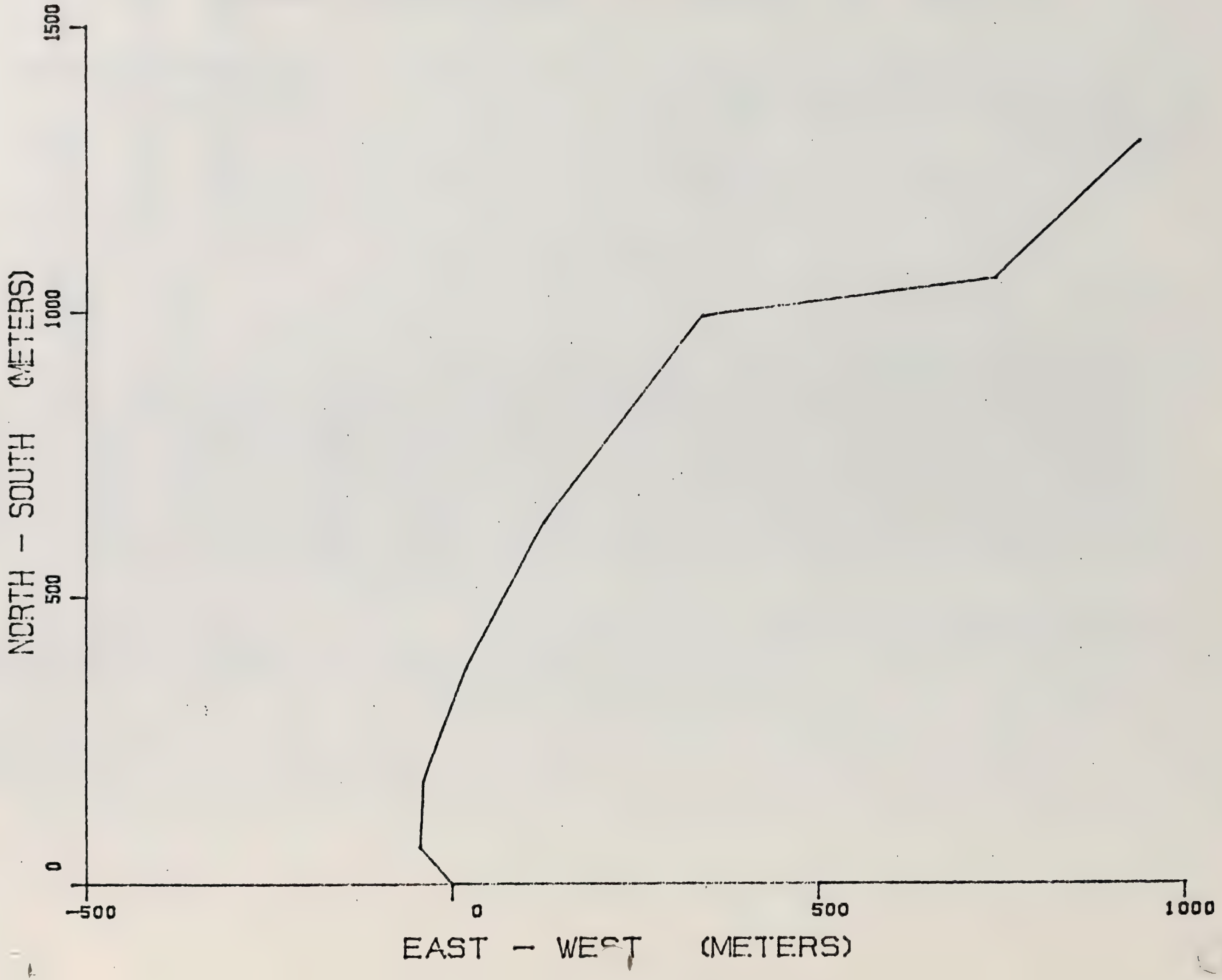

C-B SOUNDING – PLOTTED ON 09/JUN/78

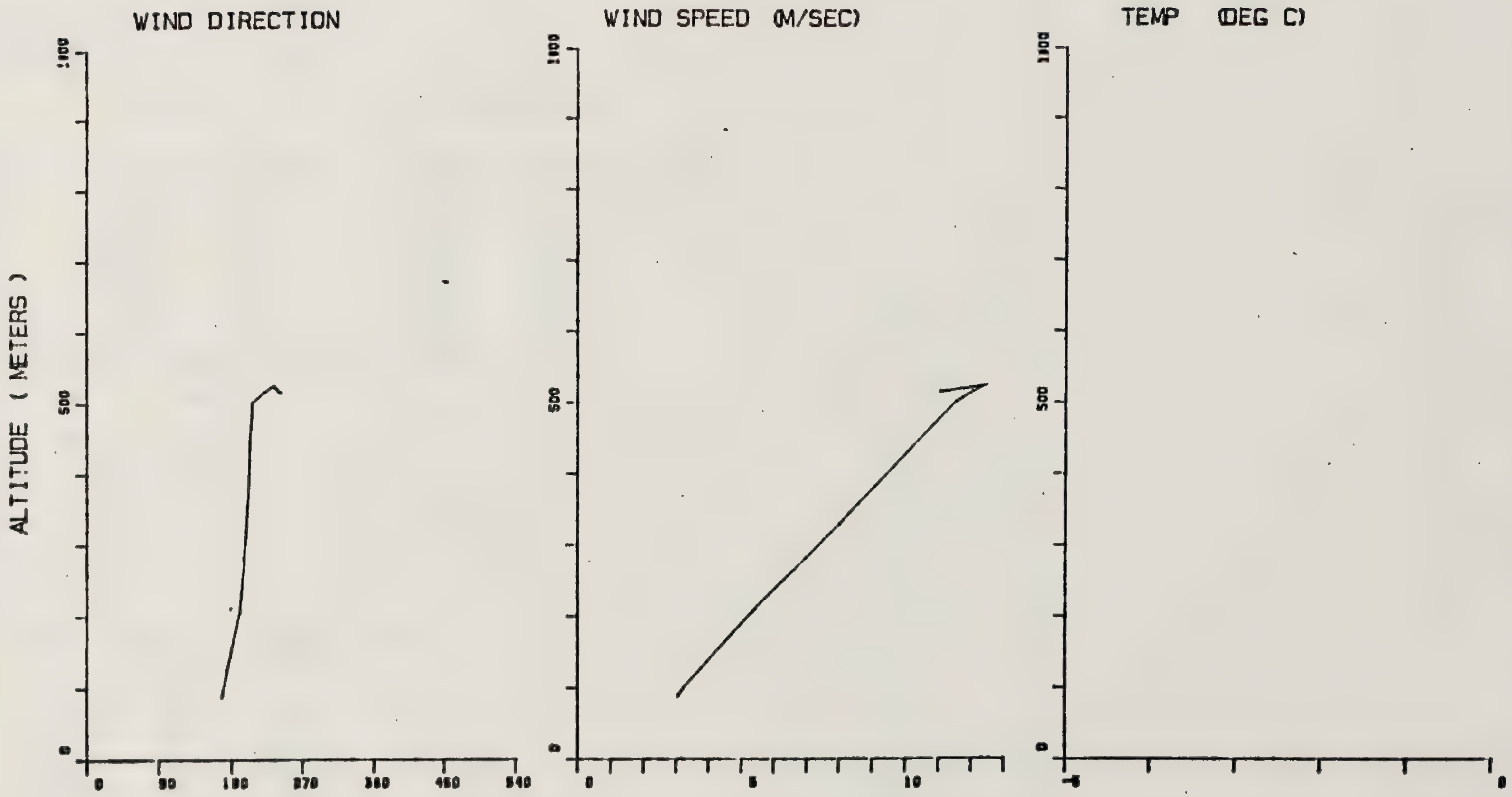
TIME 800 DATE 3/ 1/78

PIBAL TRAJECTORY -- LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 09/JUN/78

TIME 800 DATE 3/ 1/78



C-b Sounding

Time: Afternoon Date: 3/1/78

No data taken due to snow.

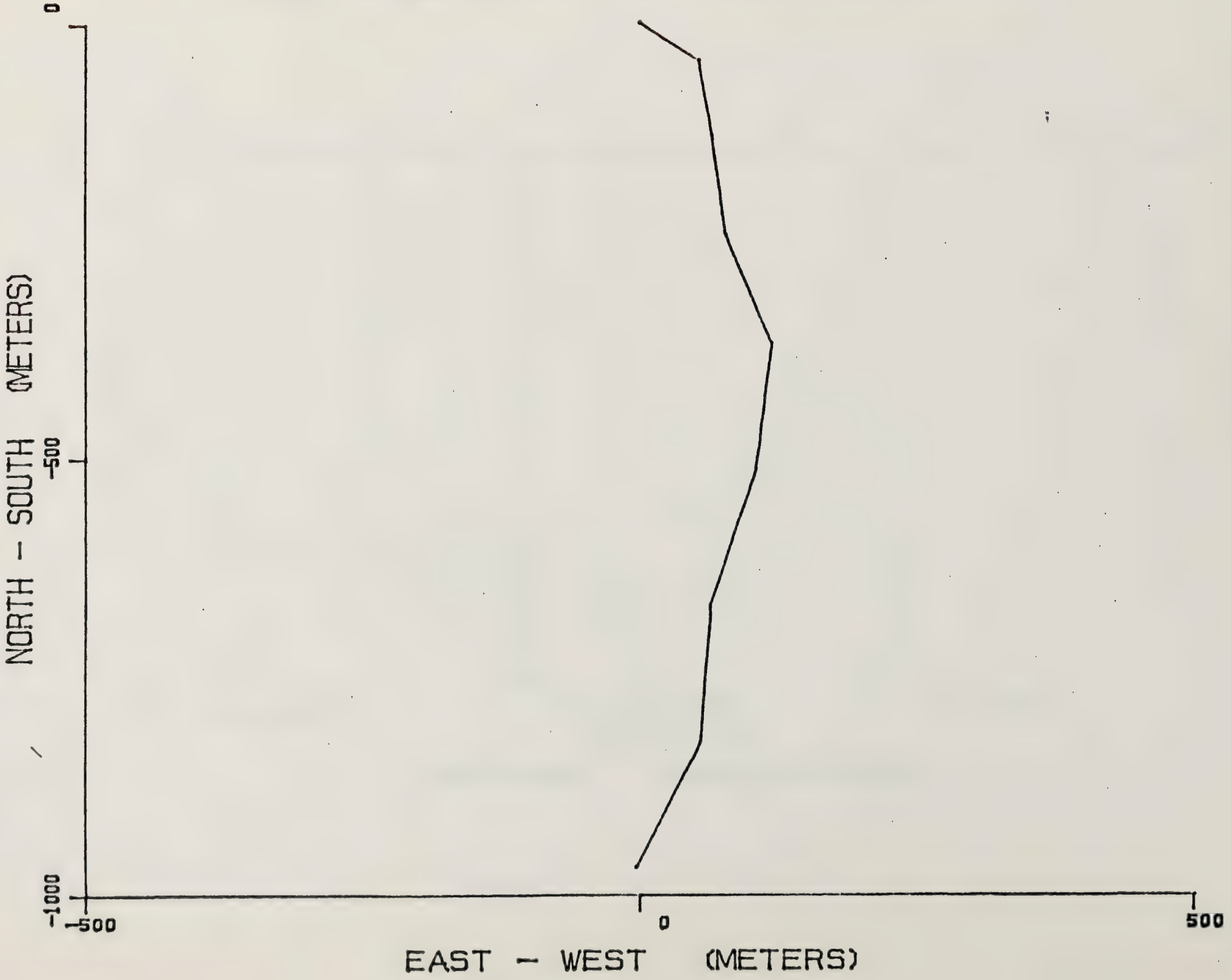
```
C-B PIBAL SOUNDING                          RUN ON 25/MAY/78

SOUNDING DATE  3- 7-78

BALLOON RELEASED  720 CST

BASE LINE ANGLE                78.4
BASE LINE LENGTH (FT)        5473.5
TIME INTERVAL (SEC)            30.0
BASE LINE HEIGHT (FT)        -100.0

             THEODOLITE #1           THEODOLITE #2

   TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION   TEMP
     .0           .0         .0        258.5         .0
     .5        130.2       38.4        257.1        3.6
    1.0        153.2       45.4        253.3        6.0
    1.5        162.2       42.4        249.4        8.6
    2.0        162.0       40.5        244.8       11.6
    2.5        168.3       38.7        240.8       13.8
    3.0        174.5       37.1        237.2       15.5
    3.5        176.2       35.5        233.5       17.0
    4.0        180.3       34.5        231.0       17.0
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      76.5        4.9
     2      29.1        5.3
     3      46.6        5.8
     4      65.7        6.3
     5      65.9        7.1
     6      71.4        7.9
     7      70.3        8.8
     8     183.3        9.6

          HEIGHT  DIRECTION  SPEED  TEMP
           FEET    DEGREES   FT/SEC

           185.      334       8.0
           482.      354      10.9
           753.      348      13.3
          1065.      355      14.7
          1347.       10      16.6
          1637.        9      17.4
          1907.       12      16.8

          HEIGHT  DIRECTION  SPEED  TEMP
          METERS   DEGREES   M/SEC

            56.      334       2.4
           147.      354       3.3
           229.      348       4.1
           325.      355       4.5
           411.       10       5.1
           499.        9       5.3
```

581.	12	5.1

C-B SOUNDING - PLOTTED ON 25/MAY/78

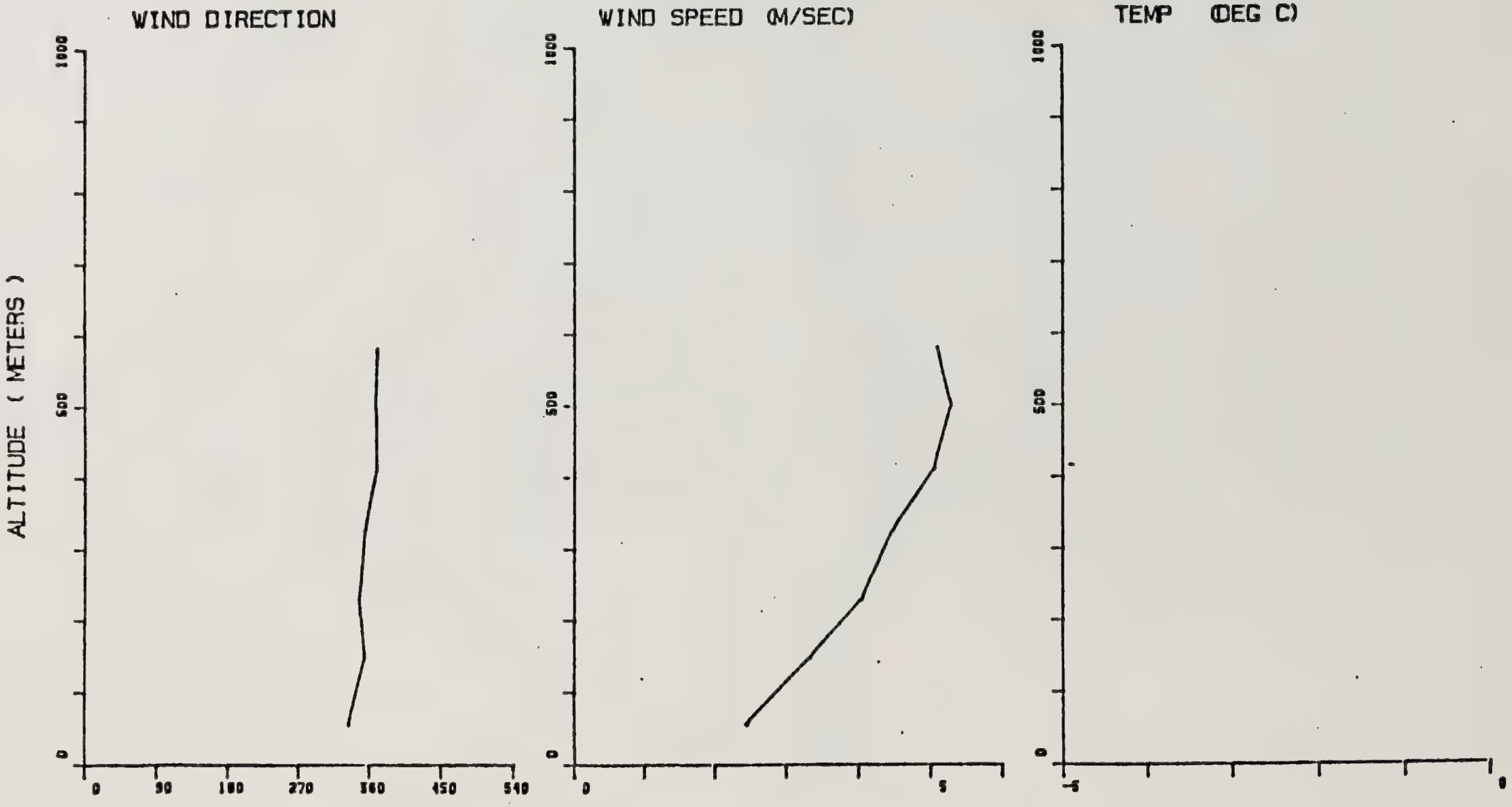
TIME 720 DATE 3/ 7/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 25/MAY/78

TIME 720 DATE 3/ 7/78



C-b Sounding

Time: 1415 Date: 3/7/78

Insufficient data.

```
C-B PIBAL SOUNDING                          RUN ON 09/JUN/78

SOUNDING DATE  3- 9-78

BALLOON RELEASED  720 CST

BASE LINE ANGLE              78.4
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)      -100.0

                THEODOLITE #1            THEODOLITE #2

   TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
    .0           .0         .0          258.5         .0
    .5        304.7       50.2          260.8        3.4
   1.0        349.7       63.2          263.0        7.4
   1.5          9.3       42.3          270.1       12.5
   2.0         27.9       38.0          280.1       19.5
   2.5         32.0       35.9          289.9       26.7
   3.0         36.1       35.2          295.7       33.4
   3.5         40.7       36.2          300.0       39.3
   4.0         42.1       37.5          304.0       44.1
   4.5         44.2       38.3          309.0       48.7
   5.0         46.3       38.7          315.1       53.3
   5.5         50.6       39.3          323.0       58.8
   6.0         55.6       39.1          334.0       64.2
   6.5         57.2       38.9          345.2       66.8
   7.0         60.2       38.3            6.3       68.6
   7.5         63.8       37.3           24.2       68.3
   8.0         65.1       36.4           41.4       67.4
   8.5         68.1       35.9           52.5       64.0
   9.0         70.5       35.5           61.6       61.7
   9.5         73.9       35.2           68.5       59.7
  10.0         76.8       34.9           75.6       57.4
  10.5         79.9       34.4           83.9       54.7
  11.0         81.4       33.9           86.9       52.6
  11.5         83.3       33.3           90.1       50.4
  12.0         85.4       32.6           93.4       46.7
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO      ERROR

     1     76.9       5.2
     2    112.3       5.5
     3     21.3       6.0
     4    130.9       6.4
     5    123.7       7.1
     6      2.9       7.5
     7      8.1       7.8
     8     28.3       8.3
     9     39.3       8.6
    10     77.5       9.3
    11     37.2       9.9
    12      4.1      10.3
    13     51.3      11.0
    14     76.7      12.0
    15     14.8      12.7
```

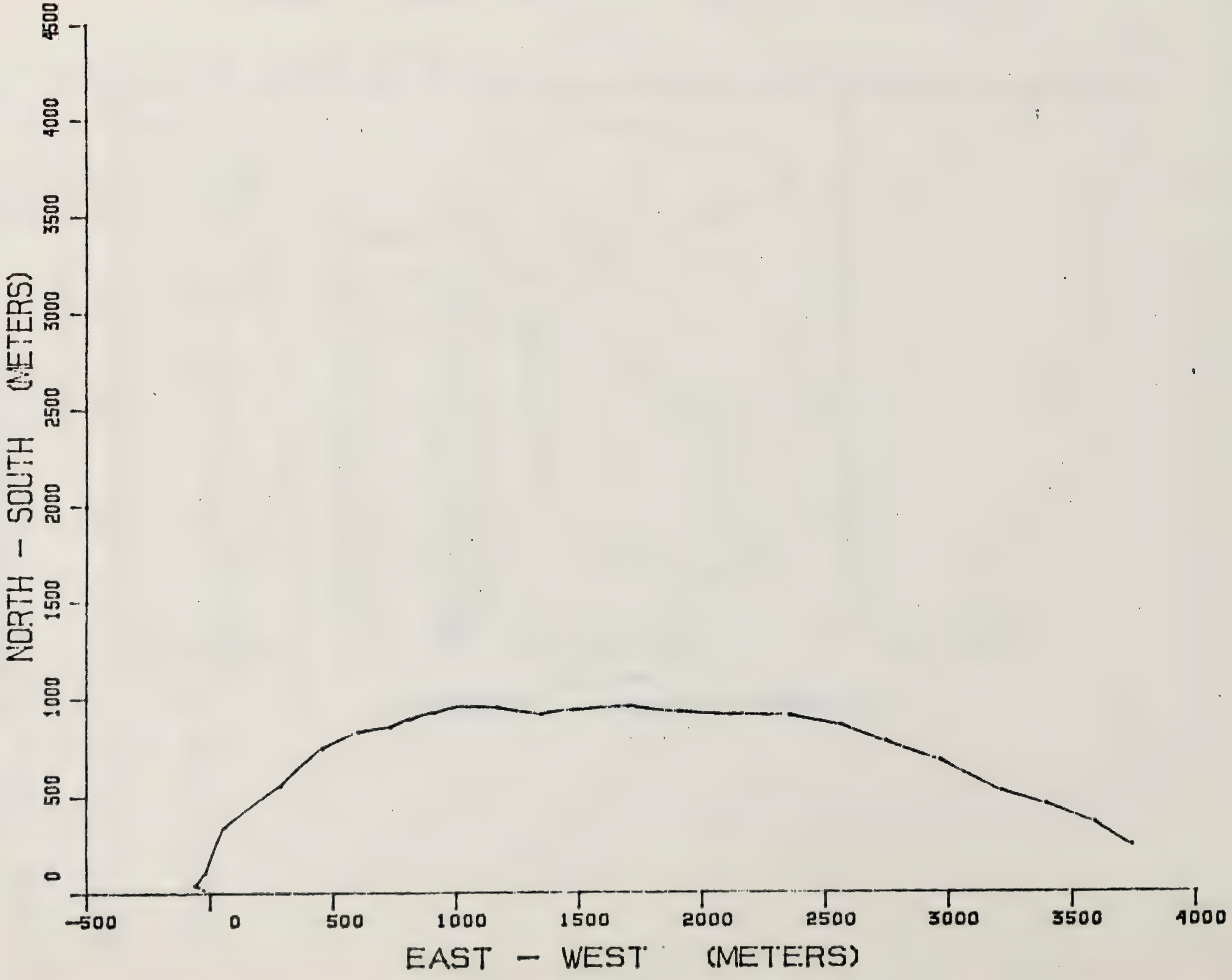
```
16       314.0       13.6
17       183.4       14.9
18       221.6       15.9
19        65.5       16.8
20        62.9       18.0
21       227.9       19.2
22       279.7       20.1
23       310.8       21.2
24       322.7       21.9

      HEIGHT   DIRECTION   SPEED   TEMP
       FEET     DEGREES    FT/SEC

        272.      170        5.8
        657.      200       17.5
       1036.      214       29.9
       1554.      224       31.2
       2021.      229       22.9
       2374.      248       16.2
       2696.      252       11.8
       3049.      247       10.3
       3380.      252       11.9
       3714.      264       14.4
       4070.      277       18.1
       4352.      273       16.7
       4650.      264       19.4
       5085.      271       23.4
       5302.      276       22.4
       5623.      273       24.7
       6025.      277       25.0
       6352.      289       22.6
       6610.      294       24.4
       6974.      299       29.0
       7297.      298       26.2
       7517.      294       22.5
       7726.      302       22.4

      HEIGHT   DIRECTION   SPEED   TEMP
      METERS    DEGREES    M/SEC

         83.      170        1.8
        200.      200        5.3
        316.      214        9.1
        474.      224        9.5
        616.      229        7.0
        724.      248        4.9
        822.      252        3.6
        929.      247        3.1
       1030.      252        3.6
       1132.      264        4.4
       1241.      277        5.5
       1327.      273        5.1
       1417.      264        5.9
       1550.      271        7.1
       1616.      276        6.8
       1714.      273        7.5
       1836.      277        7.6
       1936.      289        6.9
```

2015.	294	7.4
2126.	299	8.6
2224.	298	8.0
2291.	294	6.9
2355.	302	6.6

C-B SOUNDING - PLOTTED ON 09/JUN/78

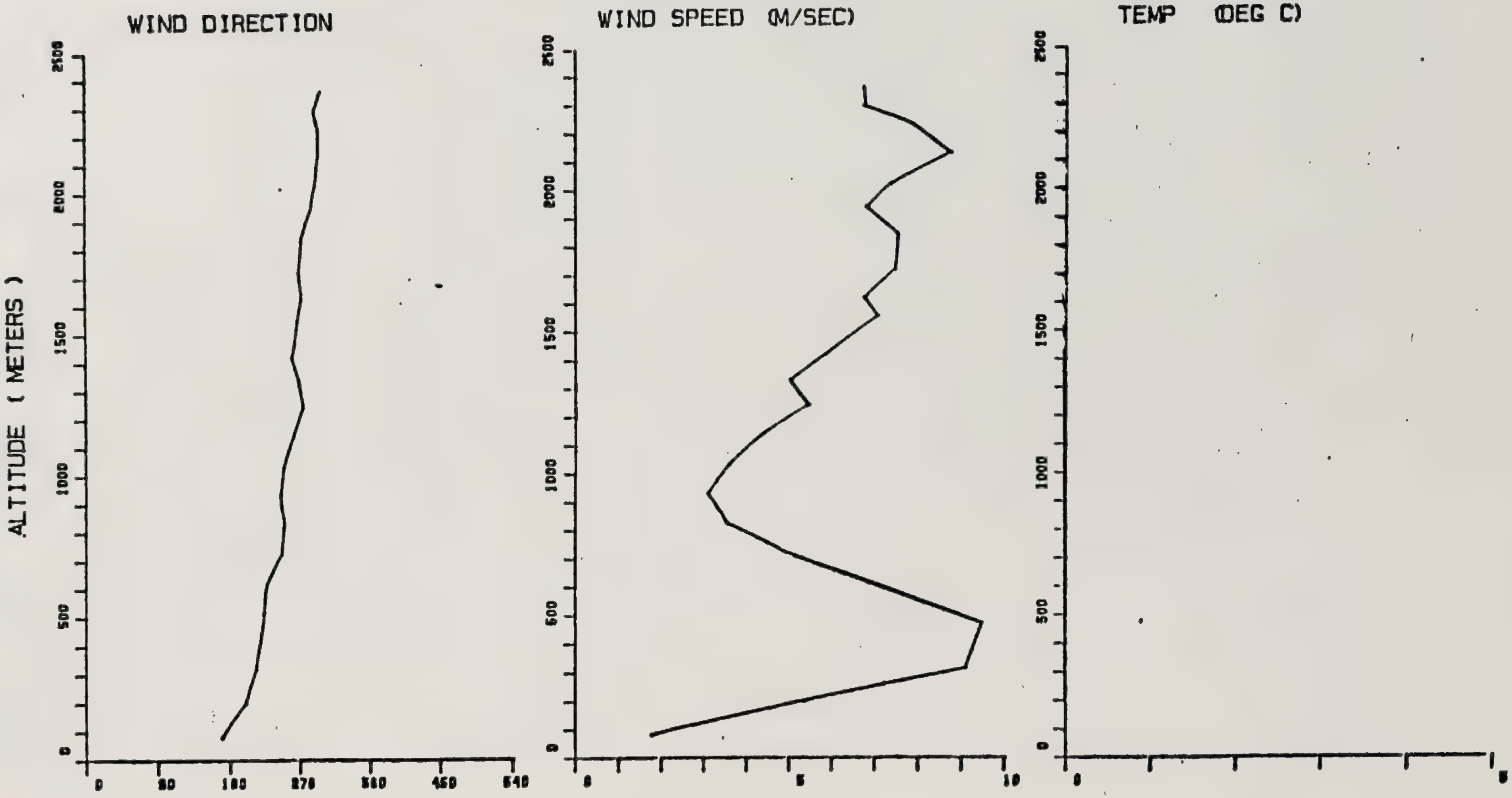
TIME 720 DATE 3/ 9/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C–B SOUNDING – PLOTTED ON 09/JUN/78

TIME 720 DATE 3/ 9/78



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C-B PIBAL SOUNDING                         RUN ON 09/JUN/78

SOUNDING DATE  3- 9-78

BALLOON RELEASED 1415 CST


BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

                THEODOLITE #1              THEODOLITE #2


   TIME        AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
    .0             .0         .0           78.0       -.0        .0
    .5           26.2       17.7           69.9       2.7      14.4
   1.0           28.1       15.6           65.0       4.1      13.9
   1.5           27.8       15.0           62.0       4.8      13.7
   2.0           28.4       15.1           59.2       5.8      13.3
   2.5           28.4       15.6           56.9       6.8      13.0
   3.0           30.8       16.5           55.8       7.7      12.4
   3.5           31.5       16.2           55.4       8.9      11.9
   4.0           32.6       20.8           55.2      10.7      10.7
   4.5           34.5       21.8           55.9      11.7       9.3
   5.0           37.1       21.9           56.1      12.1       9.1
   5.5           39.2       22.2           56.6      12.7       8.6
   6.0           41.6       22.8           57.1      13.4       7.9
   6.5           43.5       23.1           57.4      13.9       6.8
   7.0           45.0       23.5           57.8      14.5       6.3
   7.5           46.7       23.6           58.2      14.8
   8.0           47.6       23.1           58.1      15.0
   8.5           48.2       22.8           57.9      15.1
   9.0           48.5       22.4           57.7      15.2
   9.5           48.7       22.2           57.3      15.4
  10.0           48.9       22.0           57.0      15.5
  10.5           49.2       22.0           56.8      15.7
  11.0           50.0       21.5           57.0      15.7
  11.5           50.6       21.1           57.0      15.6
  12.0           51.2       20.8           57.1      15.7
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1       34.5        6.5
     2       25.5        8.0
     3        8.5        9.0
     4        2.5       10.3
     5       10.6       11.4
     6       59.4       12.7
     7       65.1       13.3
     8       69.9       14.0
     9       16.2       14.5
    10       51.2       15.6
    11       33.7       16.5
    12       60.6       17.6
    13       97.4       18.8
    14       97.9       19.8
    15      142.4       20.9
```

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16       137.5       22.5
17       171.2       24.0
18       156.8       25.3
19       178.5       27.0
20       205.8       28.5
21       243.5       29.9
22       223.3       32.0
23       267.7       34.0
24       257.8       36.4

      HEIGHT   DIRECTION   SPEED   TEMP
       FEET     DEGREES    FT/SEC

        367.      208       34.4   14.4
        582.      208       25.9   13.9
        723.      208       23.0   13.7
        928.      209       23.9   13.3
       1148.      216       23.5   13.0
       1415.      223       17.3   12.4
       1664.      226       10.3   11.9
       2042.      243        9.5   10.7
       2244.      246       14.7    9.3
       2472.      243       18.6    9.1
       2690.      247       18.6    8.6
       2998.      245       21.3    7.9
       3286.      245       19.5    6.8
       3560.      247       19.3    6.3
       3817.      241       25.5
       4109.      235       28.0
       4359.      234       25.3
       4582.      231       27.8
       4904.      231       28.8
       5170.      232       26.4
       5470.      237       32.2
       5786.      238       37.7
       6074.      238       40.7

      HEIGHT   DIRECTION   SPEED   TEMP
      METERS    DEGREES    M/SEC

        112.      208       10.5   14.4
        177.      208        7.9   13.9
        220.      208        7.0   13.7
        283.      209        7.3   13.3
        350.      216        7.2   13.0
        431.      223        5.3   12.4
        507.      226        3.1   11.9
        623.      243        2.9   10.7
        684.      246        4.5    9.3
        754.      243        5.7    9.1
        820.      247        5.7    8.6
        914.      245        6.5    7.9
       1001.      245        5.9    6.8
       1085.      247        5.9    6.3
       1163.      241        7.8
       1252.      235        8.5
       1328.      234        7.7
       1397.      231        8.5
```
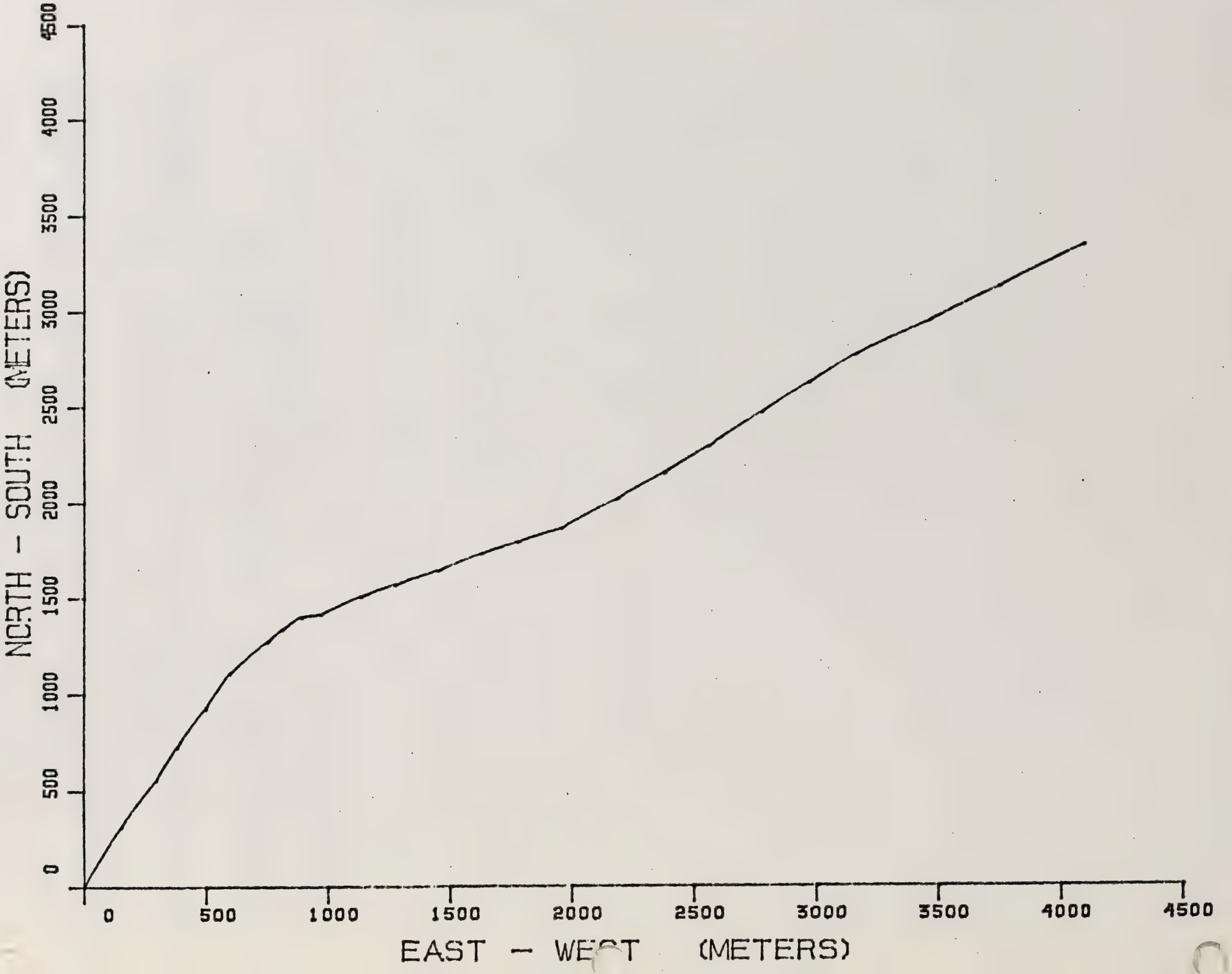

```
1445.     231      8.8
1576.     232      8.0
1667.     237      9.8
1763.     238     11.5
1851.     238     12.4
```

C-B SOUNDING — PLOTTED ON 09/JUN/78

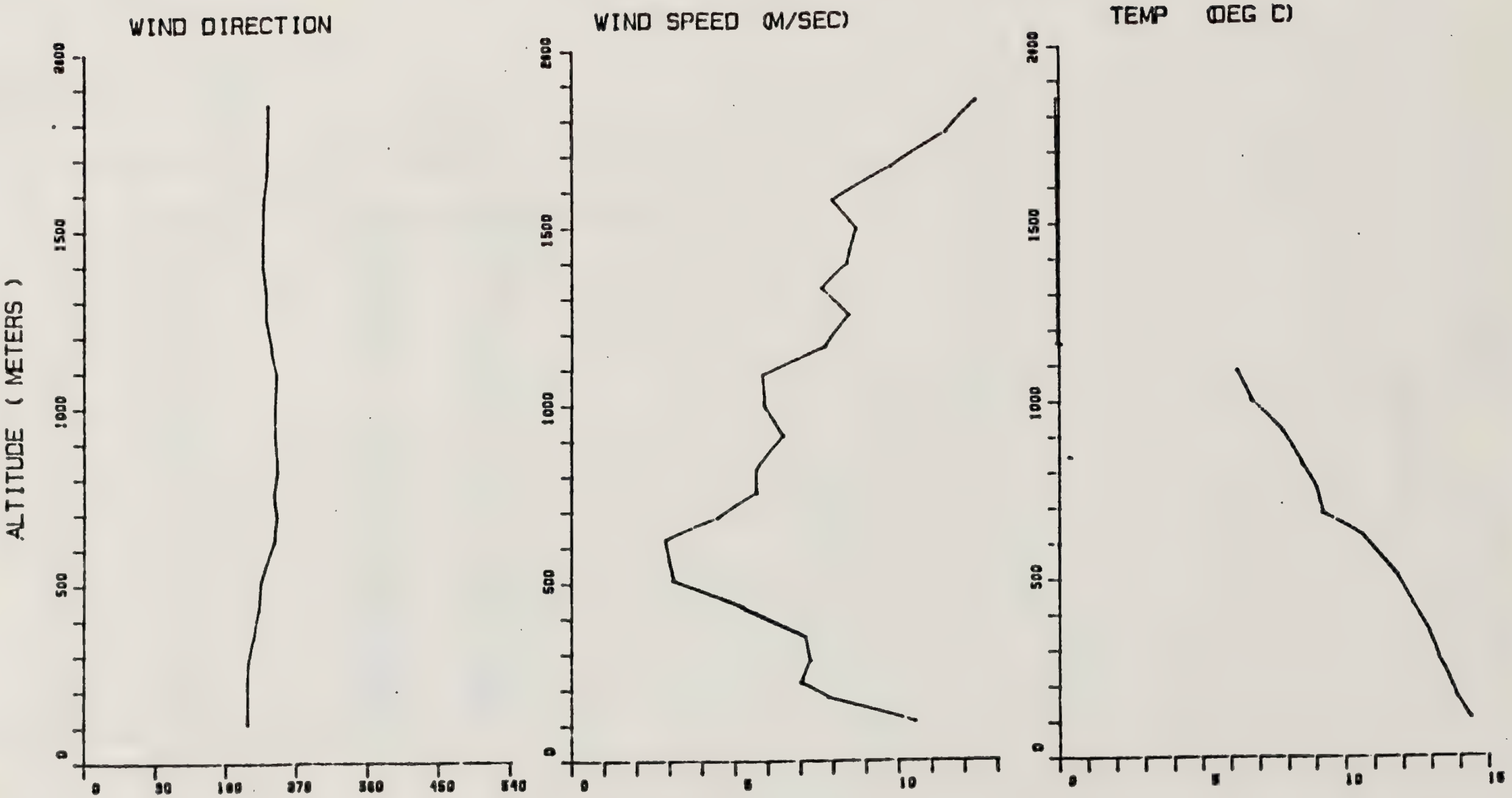
TIME 1415 DATE 3/ 9/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 09/JUN/78

TIME 1415 DATE 3/ 9/78



C-b Sounding

Time: 0715 Date: 3/10/78

Bad data.

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C-B PIBAL SOUNDING                        RUN ON 09/JUN/78

SOUNDING DATE  3-10-78

BALLOON RELEASED 1400 CST

BASE LINE ANGLE            258.0
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

                THEODOLITE #1             THEODOLITE #2


   TIME      AZIMUTH  ELEVATION         AZIMUTH  ELEVATION    TEMP
    .0           .0         .0            78.0       -.0
    .5        125.2       37.1            79.6       2.9
   1.0        127.9       33.2            81.8       6.0
   1.5        139.3       45.7            85.0       9.4
   2.0        149.8       46.8            89.0      13.2
   2.5        154.8       46.6            91.5      15.6
   3.0        160.5       47.8            94.3      18.4
   3.5        167.3       47.9            97.5      21.2
   4.0        175.7       47.9           101.1      24.5
   4.5        181.2       48.2           104.3      28.0
   5.0        188.1       48.8           108.8      31.8
   5.5        193.6       46.6           114.8      35.6
   6.0        195.5       45.6           119.8      37.5
   6.5        196.2       45.0           123.6      39.0
   7.0        195.3       44.8           126.1      39.6
   7.5        193.3       44.7           128.0      39.9
   8.0        192.1       44.6           130.0      40.3
   8.5        191.8       44.8           131.2      40.4
   9.0        190.0       44.9           131.7      40.5
   9.5        184.5       45.0           132.4      40.4
  10.0        183.0       44.7           133.6      40.3
  10.5        181.6       44.3           135.0      40.1
  11.0        180.4       44.0           136.2      40.0
  11.5        178.3       43.7           137.2      39.8
  12.0        177.4       43.6           137.9      39.8
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME       RHO        ERROR

     1      156.9         5.4
     2      295.7         6.0
     3      155.1         6.5
     4      149.0         7.1
     5      171.9         7.4
     6      148.2         7.8
     7      139.0         8.1
     8      132.5         8.4
     9      146.8         8.8
    10       54.2         9.2
    11      108.7         9.7
    12       65.5        10.2
    13       63.1        10.8
    14       51.1        11.3
    15       58.8        11.9
```

16	55.6	12.5
17	2.4	12.8
18	19.0	13.2
19	83.2	14.6
20	83.1	15.3
21	70.8	16.1
22	64.4	16.9
23	65.2	18.0
24	60.3	18.6

HEIGHT FEET	DIRECTION DEGREES	SPEED FT/SEC	TEMP
288.	307	12.3	
528.	328	10.0	
1007.	355	11.3	
1430.	358	11.3	
1688.	7	9.1	
2006.	20	10.3	
2299.	34	12.5	
2600.	41	12.9	
2935.	45	13.4	
3314.	45	17.4	
3637.	37	16.8	
3903.	27	12.6	
4153.	13	9.8	
4371.	352	9.3	
4617.	348	9.7	
4859.	354	7.1	
4994.	339	5.9	
5183.	322	15.3	
5712.	326	17.1	
5958.	339	12.4	
6226.	340	13.0	
6499.	335	15.3	
6891.	334	14.3	

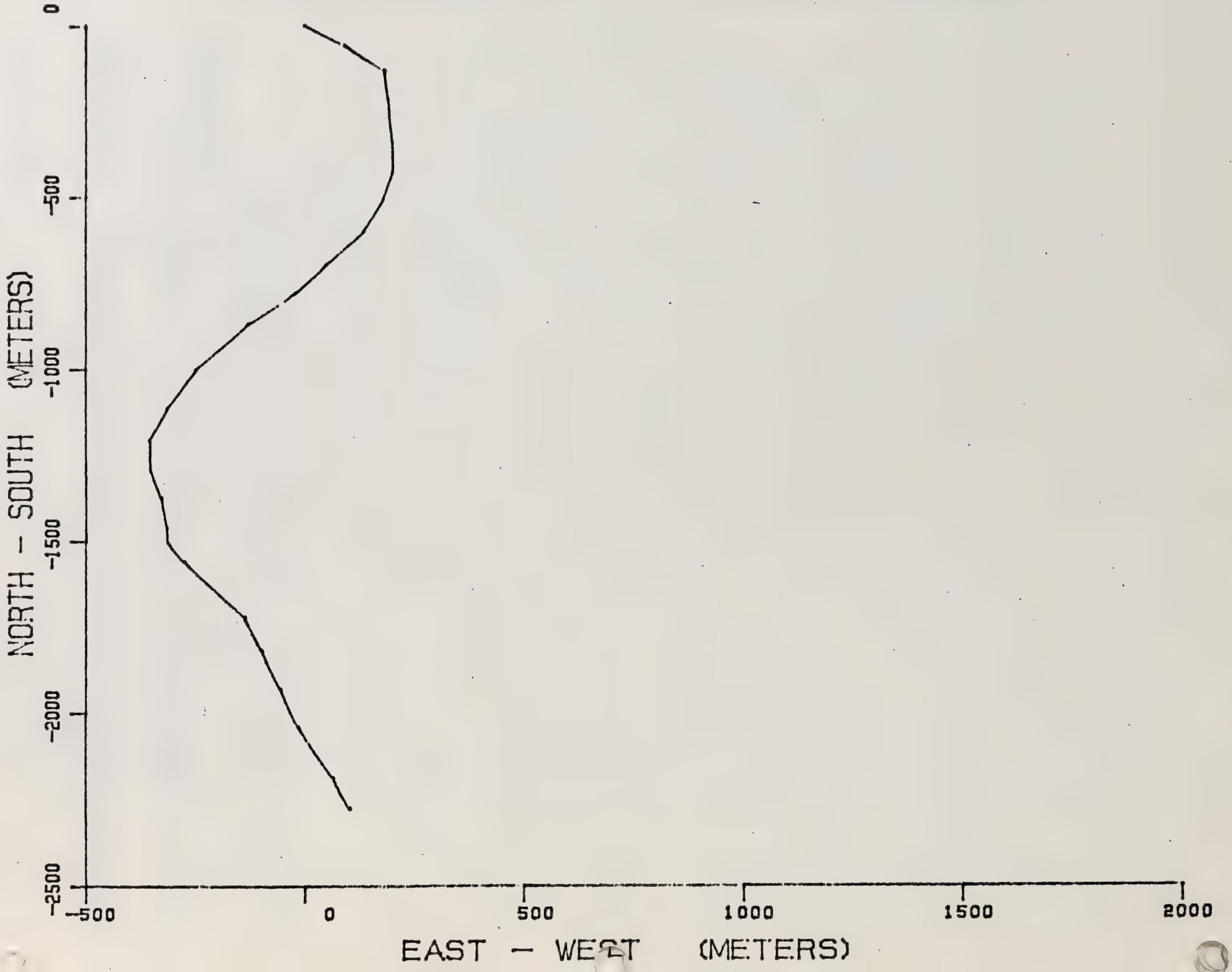
HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
88.	307	3.7	
161.	328	3.0	
307.	355	3.4	
436.	358	3.4	
514.	7	2.8	
612.	20	3.1	
701.	34	3.8	
793.	41	3.9	
895.	45	4.1	
1010.	45	5.3	
1109.	37	5.1	
1190.	27	3.8	
1266.	13	3.0	
1332.	352	2.8	
1407.	348	3.0	
1481.	354	2.2	
1522.	339	1.8	
1580.	322	4.7	

1741.	326	5.2
1816.	339	3.8
1896.	340	4.0
1981.	335	4.7
2100.	334	4.4

C-B SOUNDING — PLOTTED ON 09/JUN/78

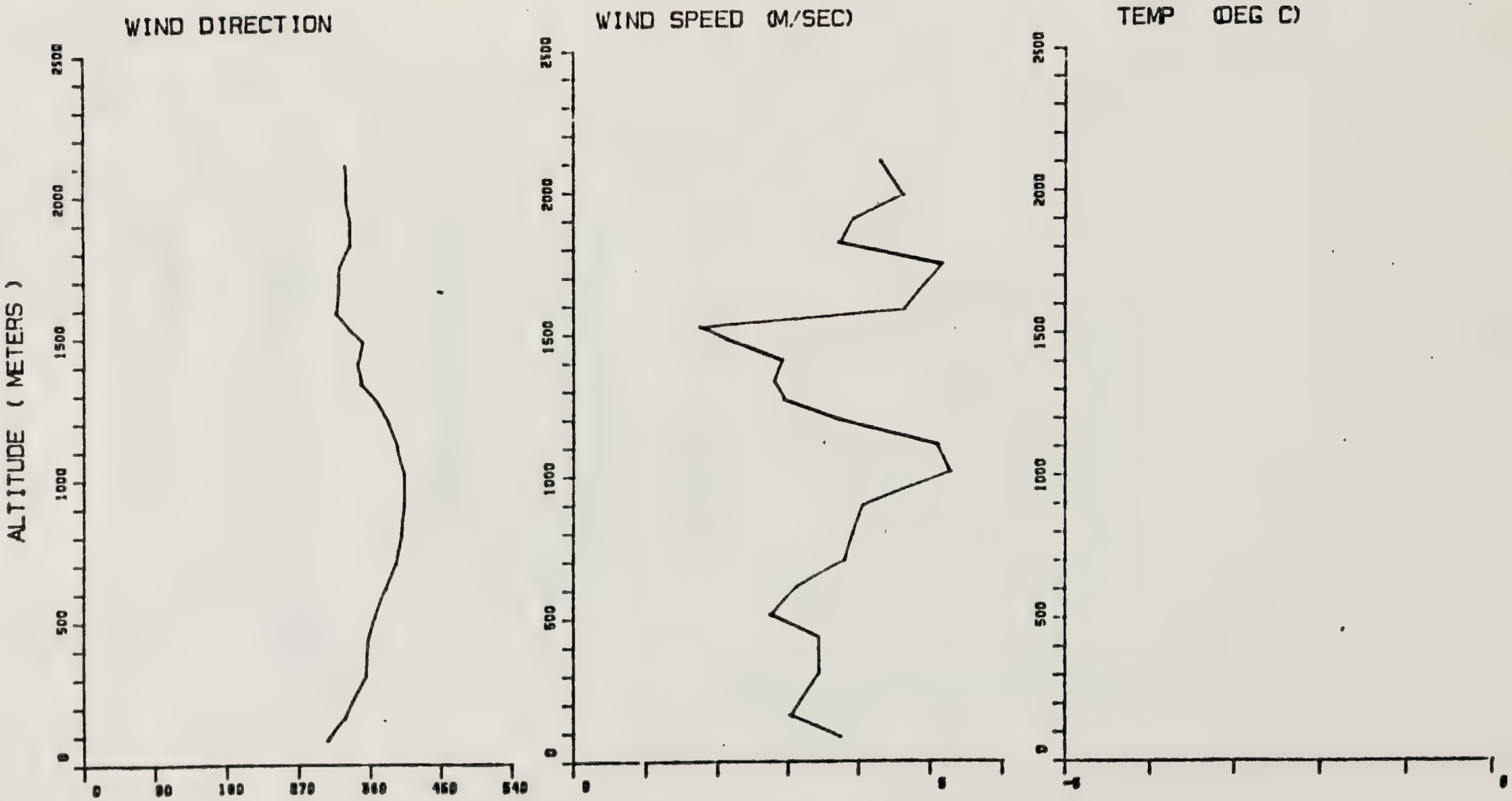
TIME 1400 DATE 3/10/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 09/JUN/78

TIME 1400 DATE 3/10/78



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C-B PIBAL SOUNDING                      RUN ON 09/JUN/78

SOUNDING DATE  3-13-78

BALLOON RELEASED  715 CST

BASE LINE ANGLE            258.0
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

               THEODOLITE #1             THEODOLITE #2

   TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
    .0          .0        .0            78.0      -.0         .0
    .5       336.2      75.3            71.9      4.8       -3.0
   1.0       265.1      72.3            77.1      6.4         .0
   1.5       232.1      67.3            79.0      9.1         .0
   2.0       216.2      59.3            82.7     13.4         .0
   2.5       206.2      52.5            88.1     17.1         .0
   3.0       199.0      45.5            94.2     20.3         .0
   3.5       194.5      42.7           100.4     22.5         .0
   4.0       188.5      40.2           106.4     24.4         .0
   4.5       181.9      38.1           112.3     25.1         .0
   5.0       177.6      34.6           118.2     24.9         .0
   5.5       175.2      31.6           125.6     24.3         .0
   6.0       172.2      27.7           130.8     23.3         .0
   6.5       171.0      26.4           138.4     22.1         .0
   7.0       170.5      25.6           145.7     21.3        3.0
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1     422.3        5.4
     2      55.3        5.2
     3      77.6        5.4
     4      93.5        5.7
     5      93.5        6.1
     6     153.0        6.6
     7     141.7        7.2
     8     167.7        8.0
     9     136.0        9.2
    10     146.4       10.4
    11      46.3       12.3
    12     171.3       14.4
    13     148.1       18.1
    14     540.1       23.4

        HEIGHT  DIRECTION  SPEED  TEMP
         FEET    DEGREES   FT/SEC

         651.       86       3.7  -3.0
         691.       27       8.0    .0
         910.       21      10.1    .0
        1250.       15      14.1    .0
        1548.        7      17.3    .0
        1801.        1      17.4    .0
   2052.       352       17.7     .0
   2353.       341       22.1     .0
   2682.       339       26.6     .0
   2933.       345       34.2     .0
   3296.       344       42.2     .0
   3567.       345       58.5     .0
   4287.       349       87.0     .0

  HEIGHT  DIRECTION    SPEED   TEMP
  METERS   DEGREES     M/SEC

    198.        86        1.1   -3.0
    211.        27        2.4     .0
    278.        21        3.1     .0
    381.        15        4.3     .0
    472.         7        5.3     .0
    549.         1        5.3     .0
    625.       352        5.4     .0
    717.       341        6.7     .0
    817.       339        8.1     .0
    894.       345       10.4     .0
   1005.       344       12.9     .0
   1087.       345       17.8     .0
   1307.       349       26.5     .0
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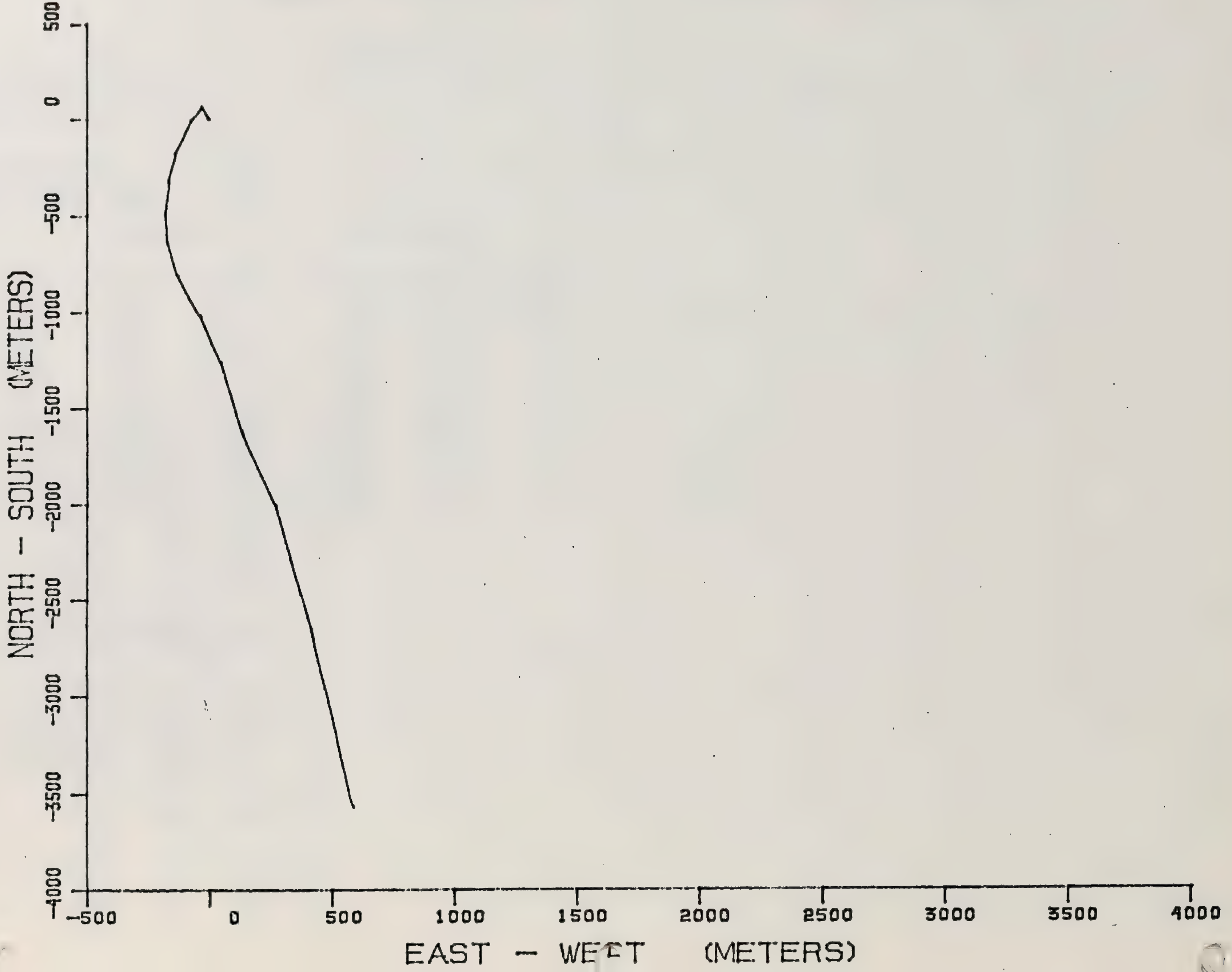
C-B SOUNDING — PLOTTED ON 09/JUN/78

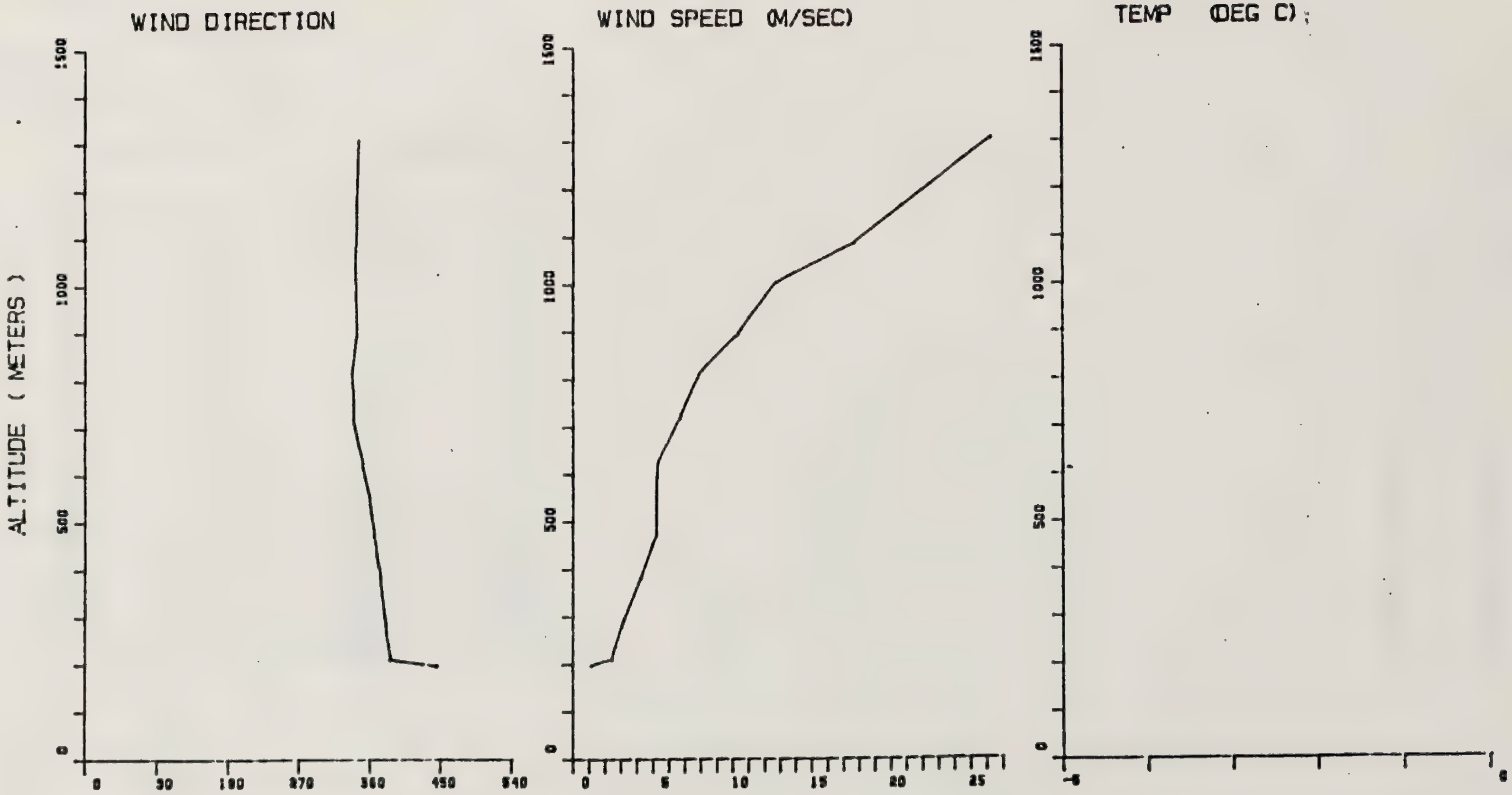
TIME 715 DATE 3/13/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 09/JUN/78

TIME 715 DATE 3/13/78



C-b Sounding

Time: Afternoon   Date:3/13/78

No data taken due to snow.

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C-B PIBAL SOUNDING                        RUN ON 09/JUN/78

SOUNDING DATE  3-15-78

BALLOON RELEASED  710 CST

BASE LINE ANGLE             258.0
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0
                THEODOLITE #1             THEODOLITE #2


   TIME      AZIMUTH  ELEVATION         AZIMUTH  ELEVATION     TEMP
    .0           .0         .0           78.0        -.0         .0
    .5        316.2       62.1           79.1        6.5       -9.9
   1.0        314.2       57.1           80.3       10.6       -10.
   1.5        317.2       63.1           81.4       12.8       -11.
   2.0         63.5       68.6           83.4       15.4       -11.
   2.5         84.2       71.4           84.6       16.8       -12.
   3.0        114.1       57.8           88.0       17.2       -12.
   3.5        122.2       52.7           93.0       19.3       -12.
   4.0        130.4       43.3          100.5       20.5       -13.
   4.5        133.9       38.8          102.4       20.9
   5.0        136.3       35.6          108.2       21.4
   5.5        138.6       32.6          112.2       21.4
   6.0        140.0       30.0          115.5       21.4
   6.5        141.7       27.7          119.8       21.4
   7.0        142.0       26.6          121.7       21.2
   7.5        143.3       25.5          124.6       21.0
   8.0        145.7       24.3          127.9       20.8
   8.5        147.9       23.4          130.5       20.7
   9.0        149.7       22.5          133.5       20.5
   9.5        151.1       21.6          136.5       20.2
  10.0        152.0       21.0          138.2       20.0
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1     382.2        5.2
     2     687.8        5.3
     3     791.1        5.5
     4     744.0        7.0
     5     633.7        7.3
     6     336.3        8.5
     7     419.2        9.8
     8     371.0       12.1
     9      47.5       12.8
    10     158.0       15.2
    11      97.3       17.0
    12      23.5       19.1
    13     104.0       22.1
    14     124.1       24.1
    15     121.7       26.7
    16     188.3       28.8
    17     284.0       30.1
    18     338.0       32.9
    19     384.2       37.0
```

20 452.3 39.4

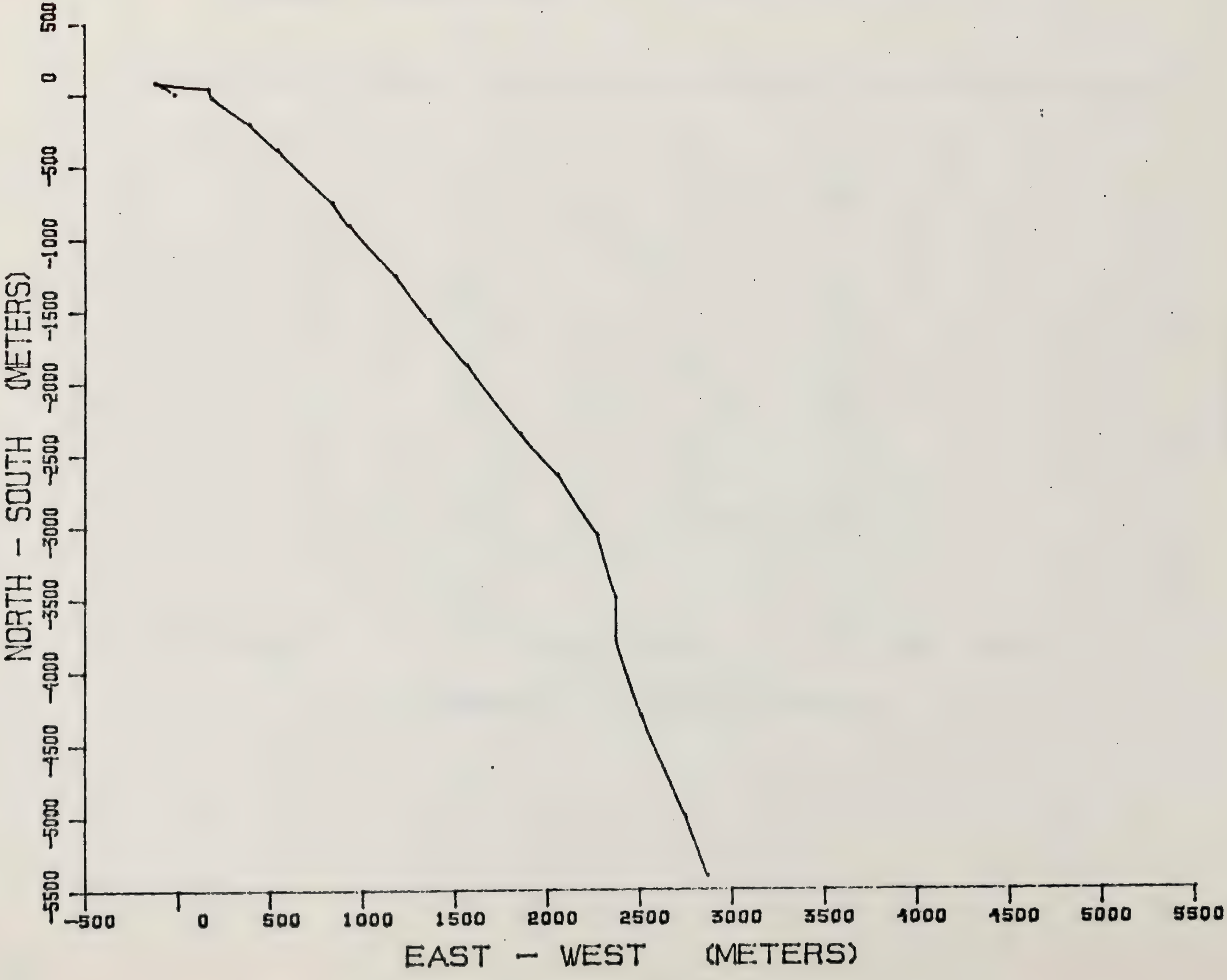
HEIGHT FEET	DIRECTION DEGREES	SPEED FT/SEC	TEMP
568.	127	7.1	-9.9
803.	116	2.4	-10.2
1024.	278	15.7	-10.8
1675.	289	17.4	-11.2
1937.	318	18.1	-11.6
2256.	316	27.5	-11.8
2751.	321	38.4	-12.1
3346.	324	35.4	-12.6
3419.	326	33.4	
3996.	327	43.1	
4321.	329	40.1	
4662.	329	51.1	
5229.	328	49.4	
5569.	330	44.2	
6022.	340	48.9	
6336.	353	40.6	
6495.	351	45.3	
6935.	343	66.3	
7589.	342	63.4	

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
173.	127	2.2	-9.9
245.	116	.7	-10.2
312.	278	4.8	-10.8
511.	289	5.3	-11.2
590.	318	5.5	-11.6
688.	316	8.4	-11.8
839.	321	11.7	-12.1
1020.	324	10.8	-12.6
1042.	326	10.2	
1218.	327	13.1	
1317.	329	12.2	
1421.	329	15.6	
1594.	328	15.1	
1697.	330	13.5	
1836.	340	14.9	
1931.	353	12.4	
1980.	351	13.8	
2114.	343	20.8	
2313.	342	19.3	

C–B SOUNDING – PLOTTED ON 09/JUN/78

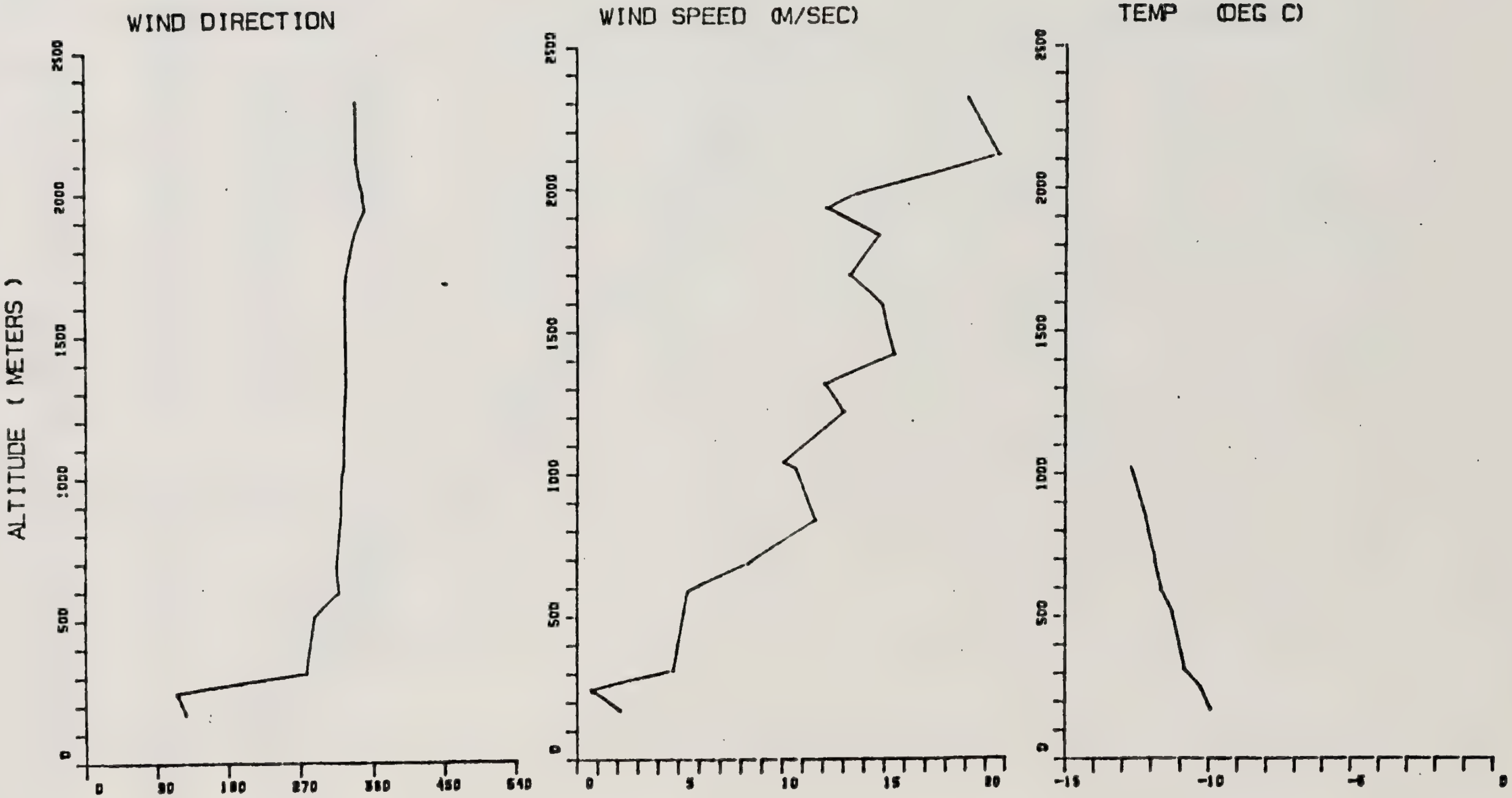
TIME 710 DATE 3/15/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 09/JUN/78

TIME 710 DATE 3/15/78



C-b Sounding

Time: 1345 Date: 3/15/78

Bad data.

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C-B PIBAL SOUNDING                        RUN ON 09/JUN/78

SOUNDING DATE   3-17-78

BALLOON RELEASED  700 CST

BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

                THEODOLITE #1           THEODOLITE #2

   TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
    .0           .0        .0           78.0       -.0        .0
    .5        267.2      26.7           82.7       6.1      -2.3
   1.0        308.2      30.7           79.0       8.8      -1.3
   1.5        327.6      39.1           75.0      12.8       -.8
   2.0        344.0      38.6           72.8      15.7       -.3
   2.5        358.2      37.1           68.5      15.5       -.2
   3.0          1.6      39.0           67.9      17.6       -.3
   3.5          5.9      41.3           66.3      19.3       -.6
   4.0         12.6      42.4           66.2      20.7       -.8
   4.5         18.3      43.6           66.5      21.9      -1.0
   5.0         20.7      44.1           66.9      23.3      -1.2
   5.5         21.6      44.4           65.8      24.3      -1.4
   6.0         22.4      43.6           63.4      25.3      -1.7
   6.5         23.9      43.3           63.2      26.0
   7.0         27.4      44.0           64.8      26.8
   7.5         35.1      45.9           66.3      28.8
   8.0         42.5      47.3           69.0      29.6
   8.5         48.1      47.8           71.1      29.9
   9.0         55.8      49.0           74.9      29.5
   9.5         63.5      50.3           77.1      30.3
  10.0         72.3      51.0           80.6      31.0
  10.5         80.0      51.0           84.4      31.6
  11.0         68.5      50.6           88.1      32.0
  11.5         96.9      49.3           93.6      32.1
  12.0        103.3      47.7           96.2      32.2
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1     755.8        4.8
     2     757.5        5.0
     3     781.0        5.5
     4     948.3        6.0
     5     766.4        6.7
     6     850.3        7.1
     7     806.5        7.7
     8     851.9        8.3
     9     886.0        8.9
    10    1001.3        9.2
    11     988.1        9.8
    12     944.4       10.6
    13    1005.6       11.0
    14    1120.1       11.3
    15    1170.9       12.7
```

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16    1196.4      13.6
17    1210.3      14.3
18    1195.2      14.3
19    1041.1      15.7
20     978.2      17.0
21    1024.8      18.2
22     918.9      19.7
23    1097.5      21.3
24     793.0      23.4

       HEIGHT   DIRECTION   SPEED  TEMP
        FEET     DEGREES    FT/SEC

         245.      124        8.5  -2.3
         386.      174        9.3  -1.3
         787.      191       10.7   -.8
        1001.      210       13.3   -.3
        1212.      212       10.7   -.2
        1450.      212        7.4   -.3
        1784.      226        9.3   -.6
        2055.      244        9.5   -.8
        2317.      248        6.8  -1.0
        2505.      225        5.7  -1.2
        2749.      209       10.9  -1.4
        3098.      214       10.2  -1.7
        3261.      264        5.5
        3392.      268       13.7
        4089.      273       19.3
        4505.      290       16.6
        4785.      315       15.9
        4829.      310       20.0
        5479.      301       25.2
        6053.      312       27.4
        6555.      316       30.5
        7150.      322       37.7
        7689.      320       41.3

       HEIGHT   DIRECTION   SPEED  TEMP
       METERS    DEGREES    M/SEC

          75.      124        2.6  -2.3
         118.      174        2.8  -1.3
         240.      191        3.3   -.8
         305.      210        4.1   -.3
         370.      212        3.3   -.2
         442.      212        2.3   -.3
         544.      226        2.8   -.6
         626.      244        2.9   -.8
         706.      248        2.1  -1.0
         764.      225        1.7  -1.2
         838.      209        3.3  -1.4
         944.      214        3.1  -1.7
         994.      264        1.7
        1034.      268        4.2
        1246.      273        5.9
        1373.      290        5.1
        1458.      315        4.8
        1472.      310        6.1
```
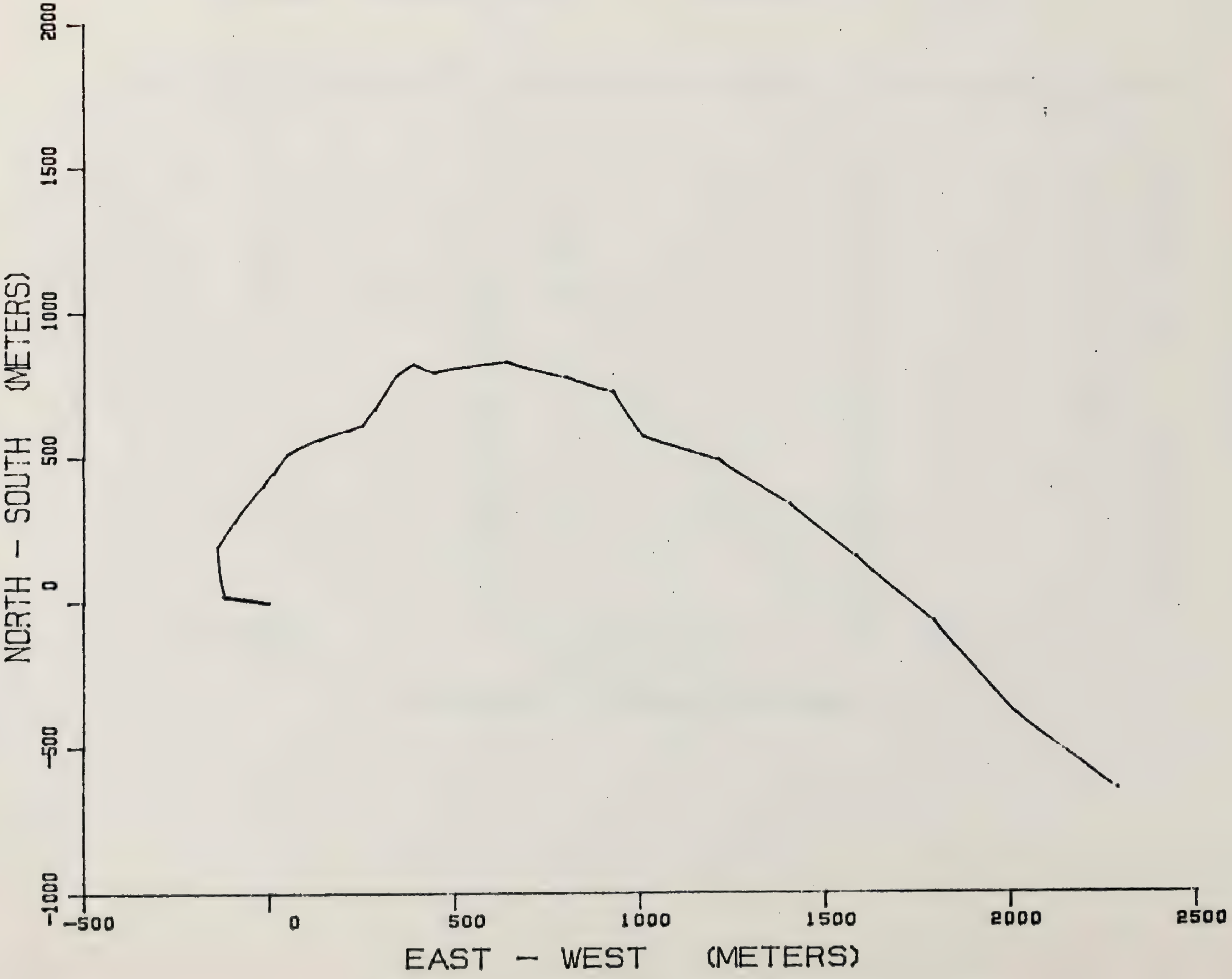

1670.	301	7.7
1845.	312	8.4
1998.	316	9.3
2179.	322	11.5
2344.	320	12.6

C-B SOUNDING — PLOTTED ON 09/JUN/78

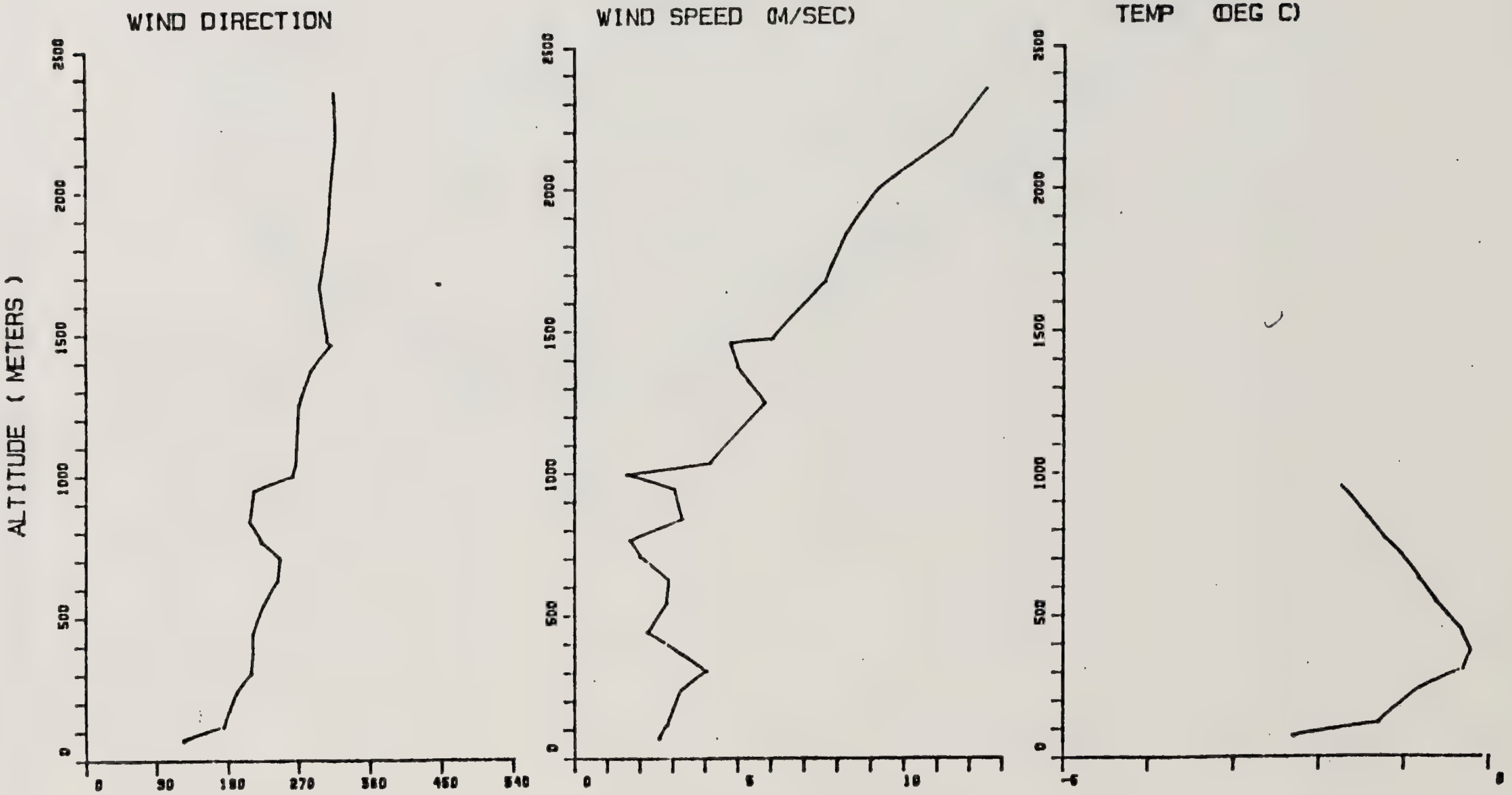
TIME 700 DATE 3/17/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C–B SOUNDING – PLOTTED ON 09/JUN/78

TIME 700 DATE 3/17/78



C-b Sounding

Time: 1430 Date: 3/17/78

Bad data.

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C-B PIBAL SOUNDING                          RUN ON 08/JUN/78

SOUNDING DATE  3-20-78

BALLOON RELEASED  700 CST


BASE LINE ANGLE             258,0
BASE LINE LENGTH (FT)      5473,5
TIME INTERVAL (SEC)          30,0
BASE LINE HEIGHT (FT)       100,0

              THEODOLITE #1           THEODOLITE #2


    TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
     .0           .0         .0          78.0       -.0        .0
     .5        318.2       28.0          75.5       2.1      -2.4
    1.0        332.2       28.0          71.6       4.9      -2.1
    1.5        348.8       35.2          68.6       6.4      -1.8
    2.0          6.0       34.0          66.7       7.7      -1.6
    2.5         15.3       33.8          65.7       9.1      -1.6
    3.0         16.6       35.0          63.3      10.6      -1.9
    3.5         16.6       37.8          62.3      12.4      -2.1
    4.0         19.7       40.5          62.4      13.7      -2.2
    4.5         25.1       43.3          63.4      15.0      -2.7
    5.0         35.4       45.8          65.4      15.4      -3.0
    5.5         46.5       46.4          68.7      17.3      -3.8
    6.0         57.7       45.5          70.5      17.1      -4.2
    6.5         66.8       44.6          73.0      16.7      -5.0
    7.0         77.0       42.3          76.4      19.1      -5.6
    7.5         86.6       39.5          80.1      19.3      -5.6
    8.0         95.6       38.3          84.5      19.8      -5.6
    8.5        102.4       37.6          88.9      20.4      -5.8
    9.0        108.6       36.6          92.8      21.0      -6.4
    9.5        114.3       34.8          95.9      21.2      -6.8
   10,0        119.4       32.7          98.8      21.4      -7,4
COMPARISON OF REAL ERROR WITH 0,1 DEG. ERROR

  TIME      RHO       ERROR

     1     130,2        5.0
     2     199.7        5.4
     3      67.8        5.9
     4      63.2        6.6
     5      78.3        7.3
     6        .4        7.9
     7      21.6        8.3
     8      55.7        8.6
     9      70.3        8.9
    10     166.5        9.2
    11        .4        9.9
    12     160.0       10.4
    13     151.3       11.5
    14     189.6       12.5
    15     269.9       13.4
    16     260.9       14.0
    17     140.4       14.9
    18     123.2       15.8
    19     253.2       16.3
```

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20      440.5      16.7

     HEIGHT  DIRECTION  SPEED  TEMP
      FEET    DEGREES   FT/SEC

       191.      152      11.7  -2.4
       404.      183      11.2  -2.1
       678.      216      13.1  -1.8
       868.      225      14.0  -1.6
      1067.      215      11.7  -1.6
      1336.      199       8.2  -1.9
      1586.      223       4.0  -2.1
      1794.      273       5.3  -2.2
      2004.      296       9.3  -2.7
      2144.      294      14.4  -3.0
      2457.      292      16.5  -3.8
      2568.      289      19.1  -4.2
      2987.      293      23.4  -5.0
      3215.      306      26.1  -5.6
      3388.      322      25.9  -5.6
      3547.      331      25.9  -5.6
      3835.    . 330      26.3  -5.8
      4105.      339      23.9  -6.4
      4157.      350      21.2  -6.6


     HEIGHT  DIRECTION  SPEED   TEMP
     METERS   DEGREES   M/SEC

        58.      152       3.6  -2.4
       123.      183       3.4  -2.1
       207.      216       4.0  -1.8
       264.      225       4.3  -1.6
       325.      215       3.6  -1.6
       407.      199       2.5  -1.9
       483.      223       1.2  -2.1
       547.      273       1.6  -2.2
       611.      296       2.8  -2.7
       653.      294       4.4  -3.0
       749.      292       5.0  -3.8
       783.      289       5.8  -4.2
       911.      293       7.1  -5.0
       980.      306       8.0  -5.6
      1033.      322       7.9  -5.6
      1081.      331       7.9  -5.6
      1169.      330       8.0  -5.8
      1251.      339       7.3  -6.4
      1267.      350       6.5  -6.8
```
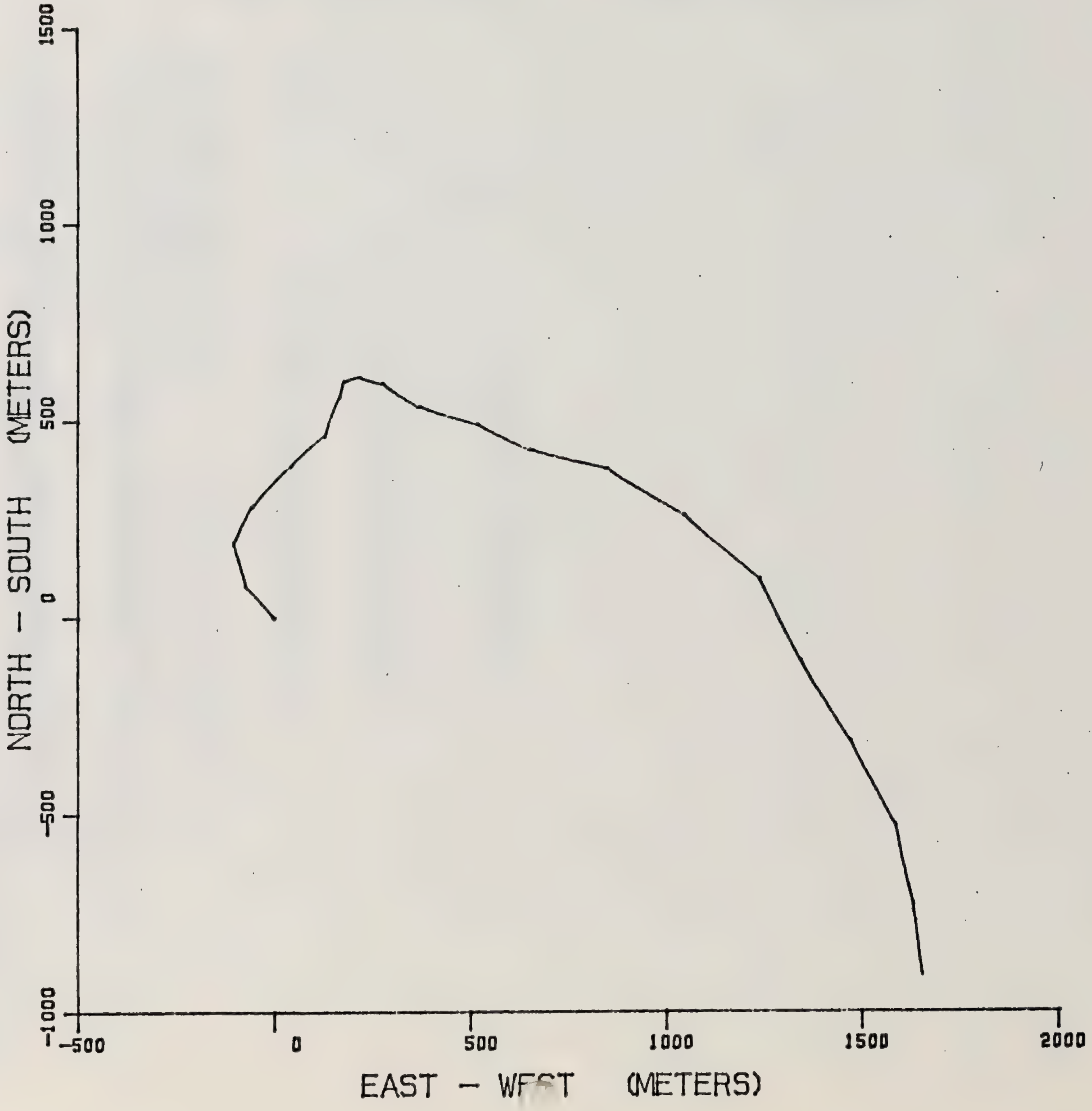

C—B SOUNDING — PLOTTED ON 08/JUN/78

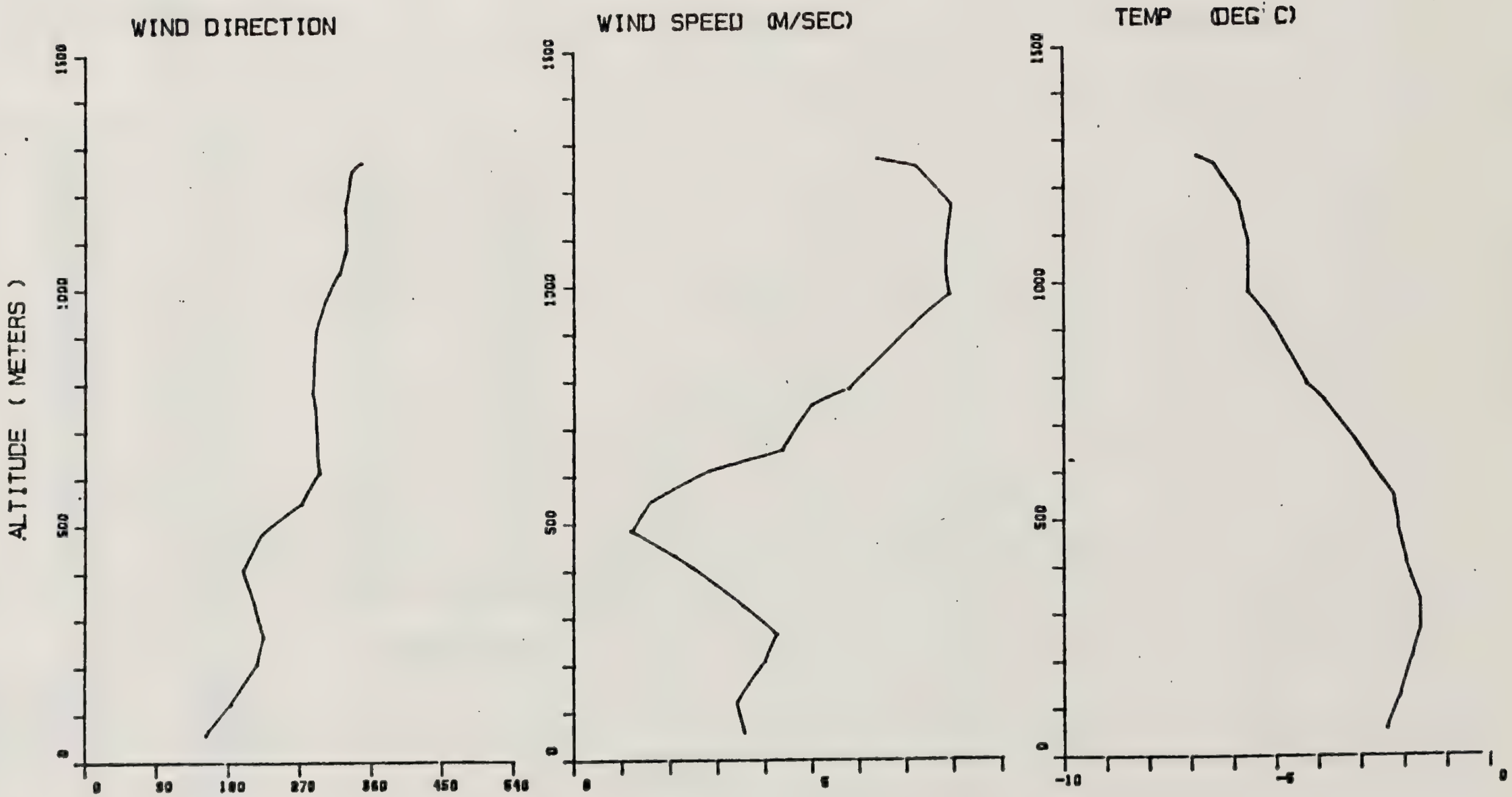
TIME 700 DATE 3/20/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 08/JUN/78

TIME 700 DATE 5/20/78



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C-8 PIBAL SOUNDING                        RUN ON 08/JUN/78

SOUNDING DATE  3-20-78

BALLOON RELEASED 1400 CST

BASE LINE ANGLE            258.0
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

               THEODOLITE #1            THEODOLITE #2

    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
      .0           .0         .0           78.0        -.0      .0
      .5         31.2       62.1           70.2        4.9    15.7
     1.0         34.1       70.1           75.3        6.9    13.9
     1.5         34.7       74.6           76.7       10.0
     2.0         65.4       78.0           77.9       12.5
     2.5         83.0       75.8           78.5       15.0
     3.0         86.5       74.4           78.1       16.8
     3.5         94.7       72.8           79.1       20.1
     4.0        102.8       67.4           81.9       21.4
     4.5        103.7       63.3           82.4       22.4
     5.0        104.4       59.7           83.5       23.0
     5.5        103.4       57.6           84.2       25.6
     6.0        101.8       55.2           85.8       25.5
     6.5        103.2       51.0           86.4       25.4
     7.0        106.2       46.8           88.4       24.9
     7.5        107.9       43.1           91.8       24.5
     8.0        109.0       41.0           93.3       24.3
     8.5        109.0       39.1           95.1       23.8
     9.0        110.2       36.7           97.0       23.2
     9.5        111.7       34.6           99.7       22.5
    10.0        112.9       32.5          100.2       22.0
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO        ERROR

      1     517.5        5.8
      2      68.0        5.7
      3      78.0        6.0
      4      53.7        6.4
      5      14.4        6.8
      6      78.7        7.6
      7      90.9        7.9
      8      19.8        8.6
      9     108.8        9.2
     10     124.7        9.9
     11     191.6       11.2
     12      12.0       12.0
     13     175.6       12.9
     14     252.7       13.8
     15      84.6       15.6
     16      84.3       16.7
     17      87.1       18.1
     18     134.4       19.7
     19     323.5       21.8
```

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20       89.2       22.6

    HEIGHT  DIRECTION  SPEED  TEMP
     FEET    DEGREES   FT/SEC

     740.      212       5.0  15.7
     803.        5       2.9  13.9
    1091.      323       2.9
    1374.      307       5.2
    1680.      280       5.6
    2164.      286       5.1
    2352.      302       9.3
    2639.      293      12.2
    2884.      285      11.6
    3101.      282      14.8
    3724.      279      15.8
    3938.      283      16.3
    4132.      293      20.0
    4256.      299      28.2
    4665.      298      28.1
    4880.      295      24.5
    5183.      296      29.8
    5437.      302      36.5
    5796.      304      30.2

    HEIGHT  DIRECTION  SPEED  TEMP
    METERS   DEGREES   M/SEC

     226.      212       1.5  15.7
     245.        5        .9  13.9
     333.      323        .9
     419.      307       1.6
     512.      280       1.7
     659.      286       1.6
     717.      302       2.8
     804.      293       3.7
     879.      285       3.5
     945.      282       4.5
    1135.      279       4.8
    1200.      283       5.0
    1259.      293       6.1
    1297.      299       8.6
    1422.      298       8.6
    1488.      295       7.5
    1580.      296       9.1
    1657.      302      11.1
    1767.      304       9.2
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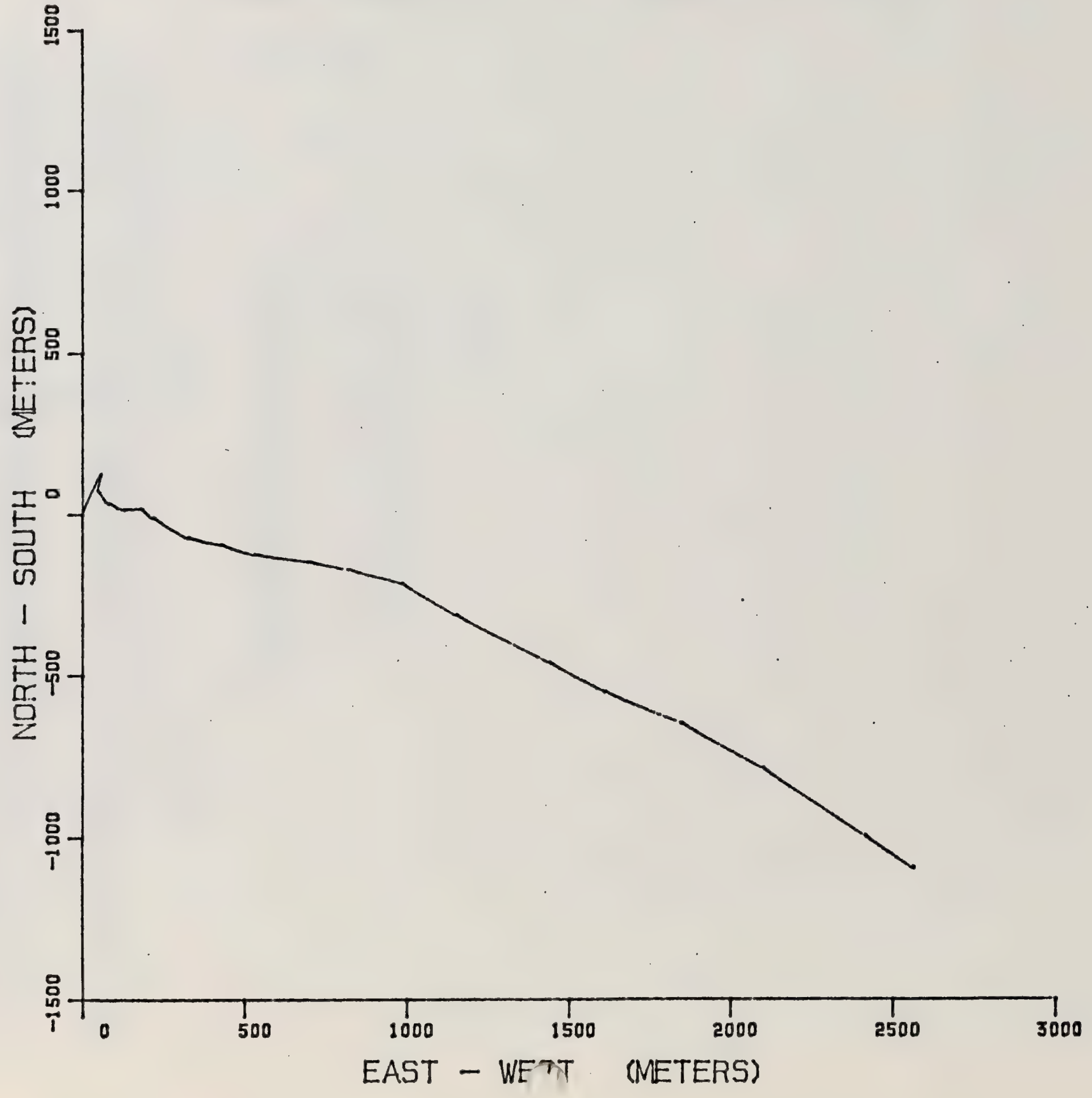


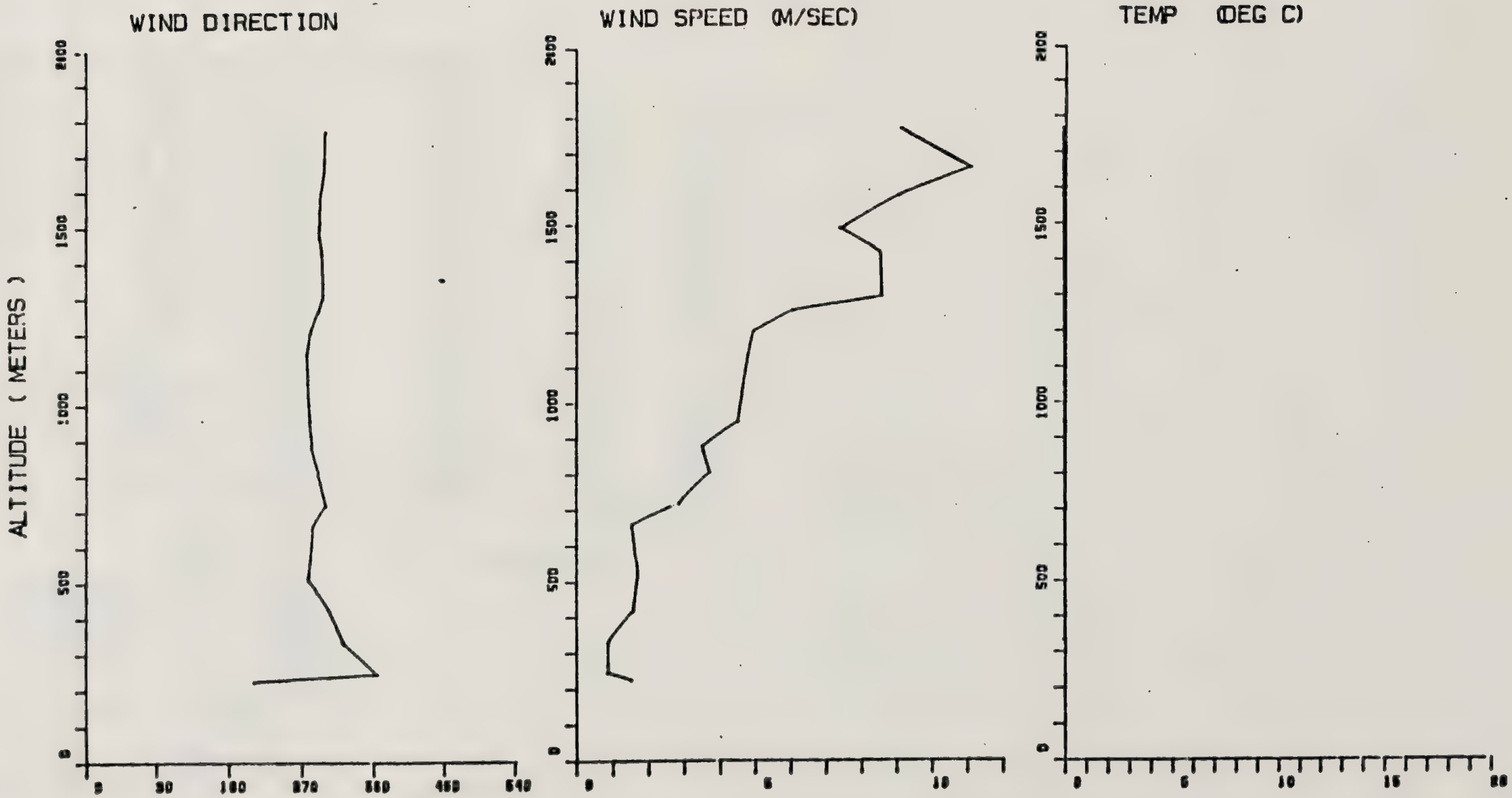
C-B SOUNDING - PLOTTED ON 08/JUN/78

TIME 1400 DATE 3/20/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN

C-B SOUNDING — PLOTTED ON 08/JUN/78

TIME 1400 DATE 5/20/78



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C-8 PIBAL SOUNDING                        RUN ON 08/JUN/78

SOUNDING DATE  3-21-78

BALLOON RELEASED  700 CST

BASE LINE ANGLE             258.0
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0

                THEODOLITE #1            THEODOLITE #2

   TIME       AZIMUTH  ELEVATION       AZIMUTH  ELEVATION     TEMP
    .0            .0         .0          78.0       -.0         .0
    .5         308.2       31.2          68.8       3.6       -1.0
   1.0         319.9       37.5          65.7       5.5        -.3
   1.5         324.0       41.7          62.3       8.0        -.2
   2.0         336.8       43.3          60.6      10.5        -.4
   2.5         344.5       40.6          55.2      13.1        -.6
   3.0         351.6       37.7          51.2      14.5        -.1
   3.5         356.6       36.7          48.6      15.6        -.8
   4.0           2.8       35.7          46.3      16.6       -1.2
   4.5           6.4       34.7          44.6      17.3       -1.7
   5.0           9.1       33.6          43.6      17.8       -2.1
   5.5          10.6       33.2          42.3      18.5       -2.9
   6.0          12.6       33.3          40.5      19.3       -3.3
   6.5          15.2       32.3          40.4      19.5       -3.8
   7.0          18.5       33.5          40.8      20.2       -4.0
   7.5          21.7       33.8          41.4      20.6       -4.2
   8.0          24.6       34.0          42.0      21.0       -4.7
   8.5          27.1       34.2          43.7      21.4       -5.2
   9.0          31.5       34.2          44.2      21.6       -6.0
   9.5          36.5       34.2          46.4      21.7
  10.0          42.1       34.0          48.8      21.8
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO       ERROR

     1     167.2       5.3
     2     266.7       5.6
     3     383.0       6.0
     4     327.3       6.5
     5     363.5       7.5
     6     371.9       8.5
     7     413.3       9.5
     8     479.5      10.9
     9     516.7      12.1
    10     483.1      13.1
    11     520.6      14.3
    12     659.3      15.9
    13     628.1      17.3
    14     807.7      18.4
    15     917.6      19.5
    16    1019.9      20.7
    17     932.9      21.1
    18    1261.6      23.0
    19    1428.9      23.8
```

20 1661.4 24.8

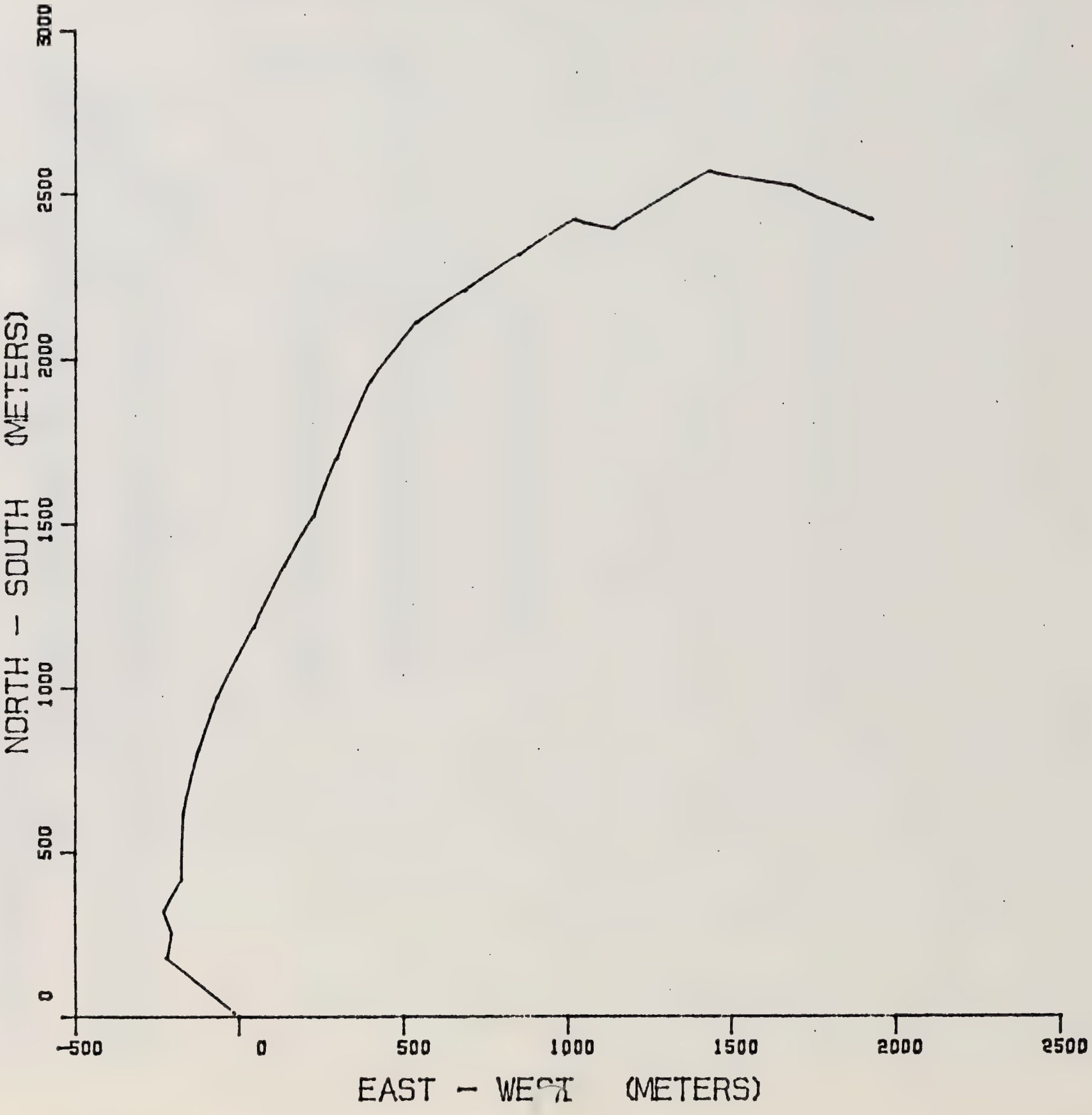
HEIGHT FEET	DIRECTION DEGREES	SPEED FT/SEC	TEMP
522.	141	17.8	-1.0
753.	176	8.1	-.3
1033.	190	9.1	-.2
1280.	191	16.0	-.4
1634.	187	21.7	-.6
1918.	196	20.6	-.1
2201.	204	22.4	-.8
2575.	206	24.2	-1.2
2886.	208	20.8	-1.7
3127.	206	19.9	-2.1
3452.	202	24.3	-2.9
3936.	210	26.3	-3.3
4225.	226	21.7	-3.8
4645.	237	20.3	-4.0
5006.	237	21.7	-4.2
5369.	254	16.4	-4.7
5513.	250	23.7	-5.2
6060.	256	30.1	-6.0
6279.	287	28.1	

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
159.	141	5.4	-1.0
230.	176	2.5	-.3
315.	190	2.8	-.2
390.	191	4.9	-.4
498.	187	6.6	-.6
585.	196	6.3	-.1
671.	204	6.8	-.8
785.	206	7.4	-1.2
880.	208	6.3	-1.7
953.	206	6.1	-2.1
1052.	202	7.4	-2.9
1200.	210	8.0	-3.3
1288.	226	6.6	-3.8
1416.	237	6.2	-4.0
1526.	237	6.6	-4.2
1636.	254	5.0	-4.7
1680.	250	7.2	-5.2
1847.	256	9.2	-6.0
1914.	287	8.6	

C-B SOUNDING - PLOTTED ON 08/JUN/78

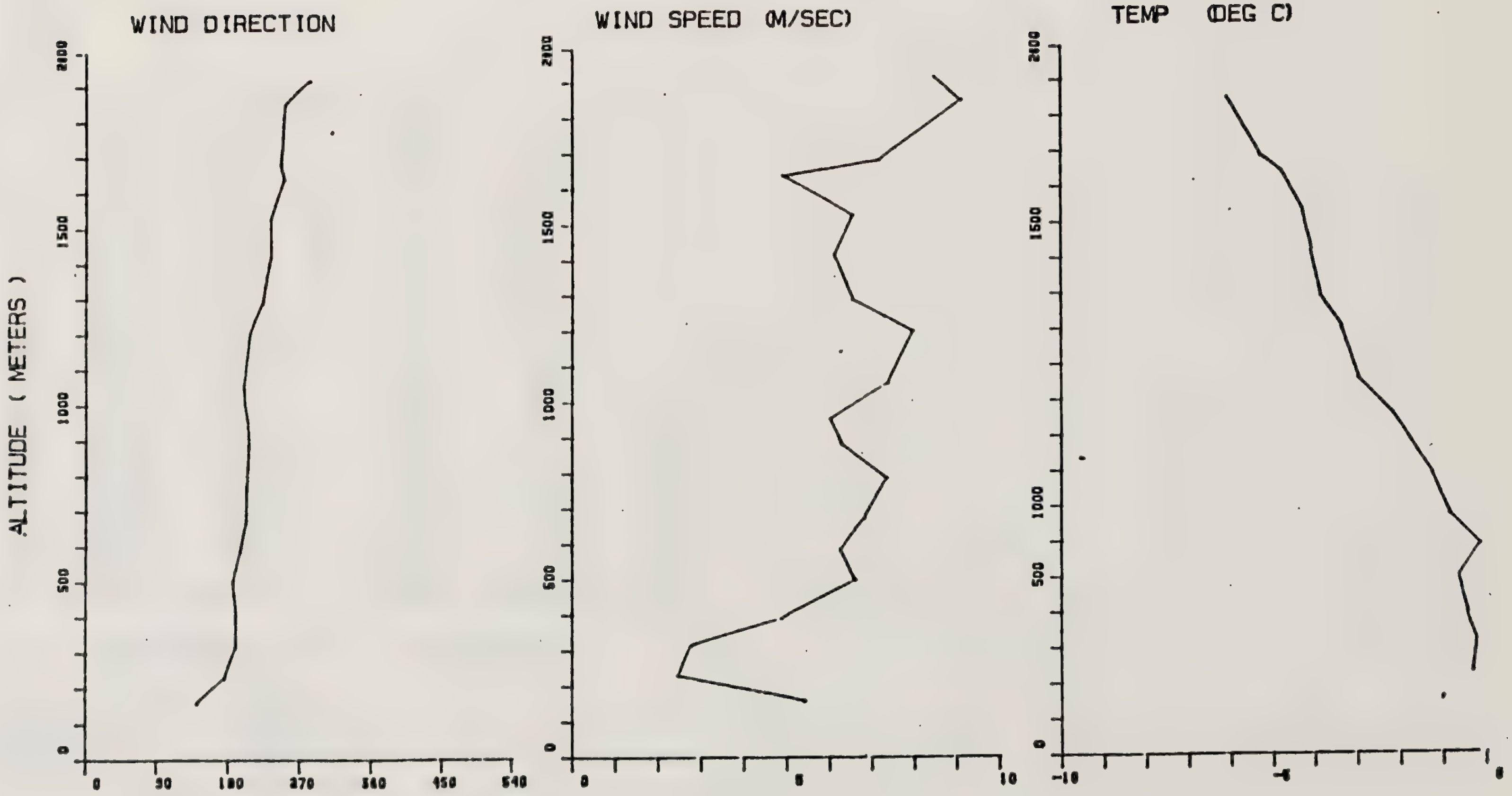
TIME 700 DATE 3/21/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 08/JUN/78

TIME 700 DATE 3/21/78



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C-B PIBAL SOUNDING                    RUN ON 08/JUN/78

SOUNDING DATE  3-21-78

BALLOON RELEASED 1400 CST


BASE LINE ANGLE           258.0
BASE LINE LENGTH (FT)    5473.5
TIME INTERVAL (SEC)        30.0
BASE LINE HEIGHT (FT)     100.0

               THEODOLITE #1            THEODOLITE #2


   TIME      AZIMUTH  ELEVATION      AZIMUTH  ELEVATION    TEMP
    .0           .0         .0         78.0       -.0        .0
    .5         15.1       32.6         68.3       3.6      17.5
   1.0         20.1       26.4         64.5       4.3      17.1
   1.5         21.2       23.7         60.4       5.3      16.2
   2.0         21.4       21.7         58.1       6.0      15.7
   2.5         21.6       19.0         54.0       6.4      15.3
   3.0         21.8       17.7         51.5       6.8      15.0
   3.5         22.7       16.8         49.6       7.1      14.8
   4.0         23.1       16.3         47.4       7.5
   4.5         23.4       16.9         46.1       8.2
   5.0         23.6       17.2         44.5       8.8
   5.5         23.9       17.4         43.1       9.2
   6.0         23.9       17.6         41.7      10.0
   6.5         24.0       18.3         40.4      10.7
   7.0         24.1       18.9         39.8      11.3
   7.5         25.0       19.0         39.2      11.7
   8.0         25.4       19.6         36.4      12.4
   8.5         25.7       20.1         37.9      13.0
   9.0         26.4       20.8         37.6      13.6
   9.5         27.5       21.3         37.7      14.3
  10.0         28.8       21.6         37.9      14.6
  10.5         29.6       22.1         38.0      15.2
  11.0         30.0       22.9         37.5      16.1
  11.5         31.0       23.3         37.4      16.4
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

    1      202.6        6.3
    2      260.0        7.3
    3      325.2        8.4
    4      297.1        9.3
    5      339.3       10.9
    6      345.0       12.2
    7      364.7       13.5
    8      409.5       15.1
    9      463.4       16.3
   10      530.4       17.7
   11      623.1       19.3
   12      625.8       21.1
   13      739.6       22.8
   14      790.0       23.7
   15      869.9       25.8
   16      975.4       27.7
```

```
17    1042.3       29.2
18    1183.0       30.7
19    1245.6       32.7
20    1403.1       34.3
21    1477.6       35.8
22    1634.5       38.0
23    1909.4       39.0

      HEIGHT  DIRECTION  SPEED   TEMP
       FEET    DEGREES   FT/SEC

        613.     199      27.5   17.5
        760.     204      23.1   17.1
        962.     202      21.1   16.2
       1073.     202      25.5   15.7
       1238.     202      29.5   15.3
       1375.     205      26.0   15.0
       1521.     206      29.1   14.8
       1724.     205      26.4
       1965.     204      24.7
       2237.     204      28.5
       2498.     204      31.3
       2847.     203      32.3
       3236.     203      23.8
       3511.     210      27.1
       3884.     210      36.1
       4354.     208      30.3
       4745.     212      25.6
       5175.     218      30.1
       5701.     224      32.4
       6064.     225      27.9
       6540.     217      31.2
       7251.     218      27.0

      HEIGHT  DIRECTION  SPEED   TEMP
      METERS   DEGREES   M/SEC

        187.     199.      8.4   17.5
        232.     204       7.0   17.1
        293.     202       6.4   16.2
        327.     202       7.8   15.7
        377.     202       9.0   15.3
        419.     205       7.9   15.0
        463.     206       8.9   14.8
        526.     205       8.0
        599.     204       7.5
        682.     204       8.7
        761.     204       9.5
        868.     203       9.8
        986.     203       7.3
       1070.     210       8.3
       1184.     210      11.0
       1327.     208       9.2
       1446.     212       7.8
       1577.     218       9.2
       1738.     224       9.9
       1854.     225       8.5
       1993.     217       9.5
```

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2210.     216       8.2
```
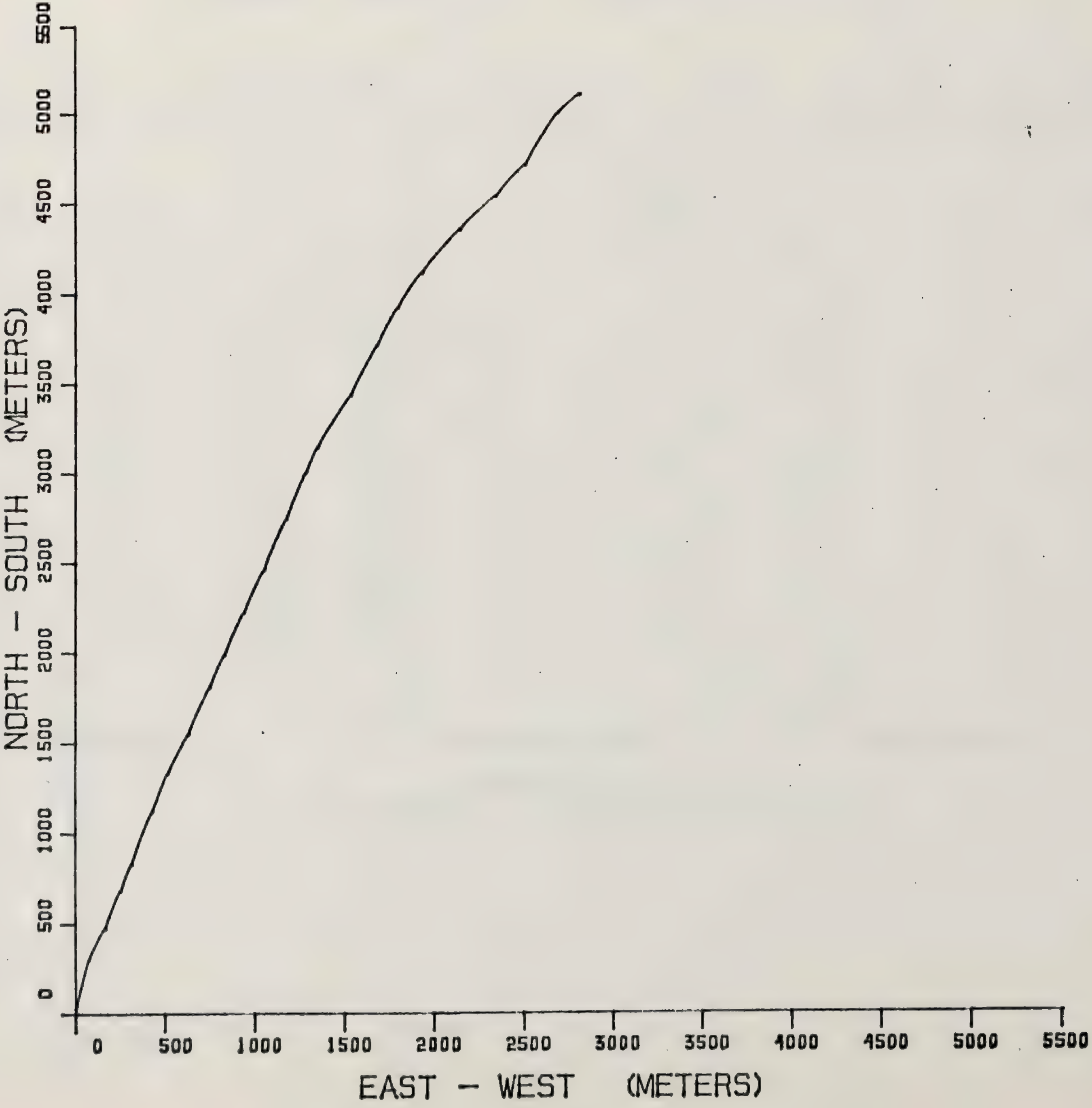
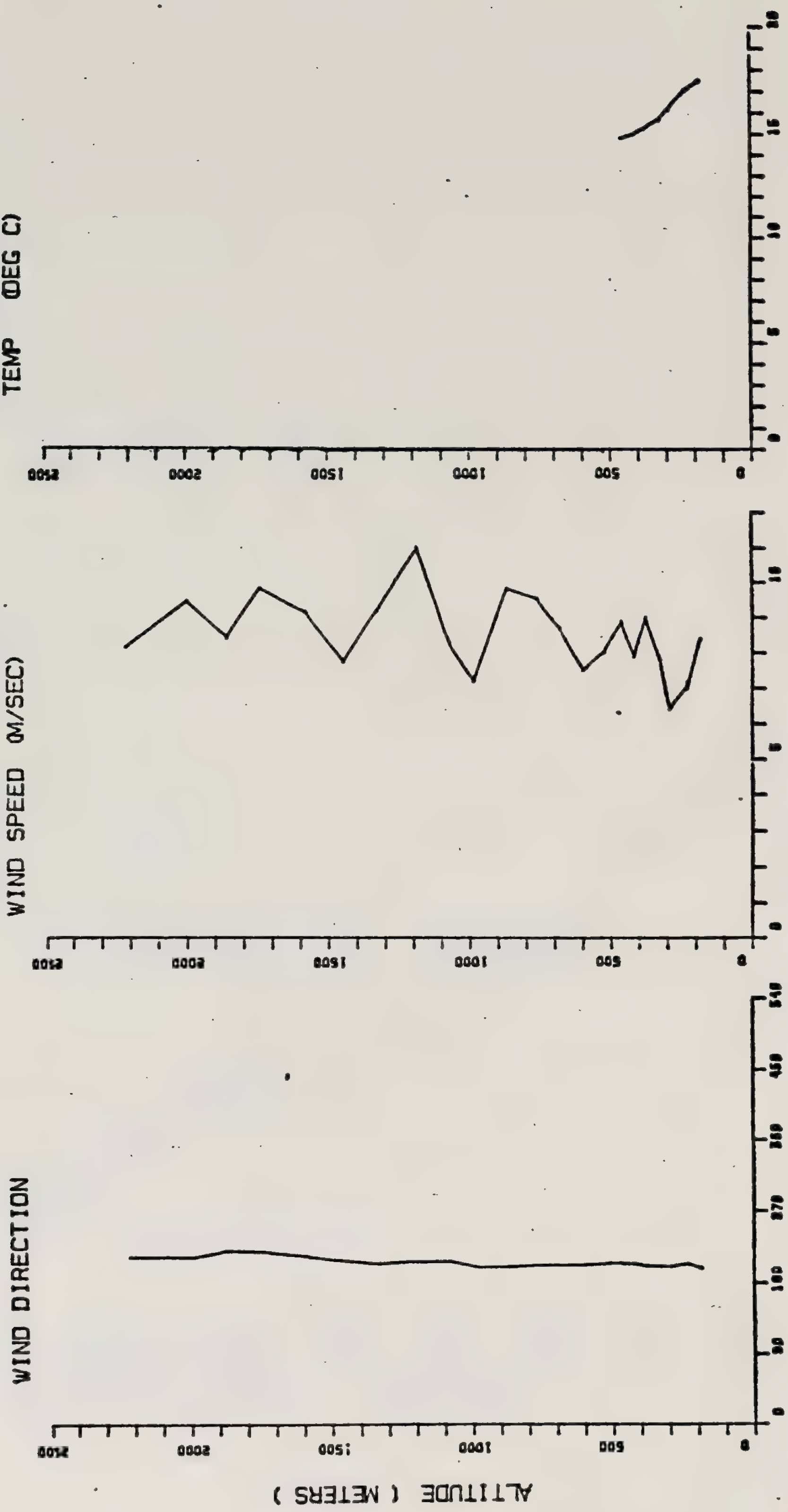

C–B SOUNDING – PLOTTED ON 08/JUN/78

TIME 1400   DATE 3/21/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN





C–B SOUNDING — PLOTTED ON 08/JUN/78

TIME 1400 DATE 3/21/78

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C-B PINAL SOUNDING                          RUN ON 08/JUN/78

SOUNDING DATE  3-23-78

BALLOON RELEASED  700 CST


BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

              THEODOLITE #1               THEODOLITE #2


    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0           .0         .0           78.0       -.0        .0
     .5        266.2       60.4           72.3       3.0       3.2
    1.0        289.1       81.4           72.2       5.5       2.6
    1.5         41.1       68.4           71.0       7.0       2.3
    2.0         41.7       49.3           66.0       8.3       2.4
    2.5         44.5       36.6           65.3       9.1       2.9
    3.0         47.5       31.5           63.8      10.0       2.3
    3.5         51.0       30.6           63.0      11.1       1.6
    4.0         55.0       29.6           63.8      12.3       1.1
    4.5         58.2       28.8           63.1      13.1
    5.0         60.6       28.6           63.6      13.8
    5.5         62.3       28.4           64.0      14.5
    6.0         63.0       28.5           64.0      15.2
    6.5         62.7       28.5           63.4      16.0
    7.0         62.2       28.6           63.9      16.6
    7.5         62.3       28.7           62.6      17.0
    8.0         63.3       29.1           63.9      17.7
    8.5         64.3       29.3           63.2      18.2
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      488.2        5.0
     2      495.1        5.3
     3      498.4        5.9
     4      522.7        7.0
     5      539.7        8.8
     6      627.3       10.6
     7      728.6       11.8
     8      728.7       13.1
     9     1012.0       14.3
    10     1098.9       14.9
    11     1162.4       15.6
    12     1222.2       16.2
    13     1300.9       17.3
    14     1122.8       19.0
    15     1416.0       18.6
    16     1253.0       19.8
    17     1544.3       18.9


         HEIGHT  DIRECTION  SPEED  TEMP
          FEET    DEGREES   FT/SEC
```

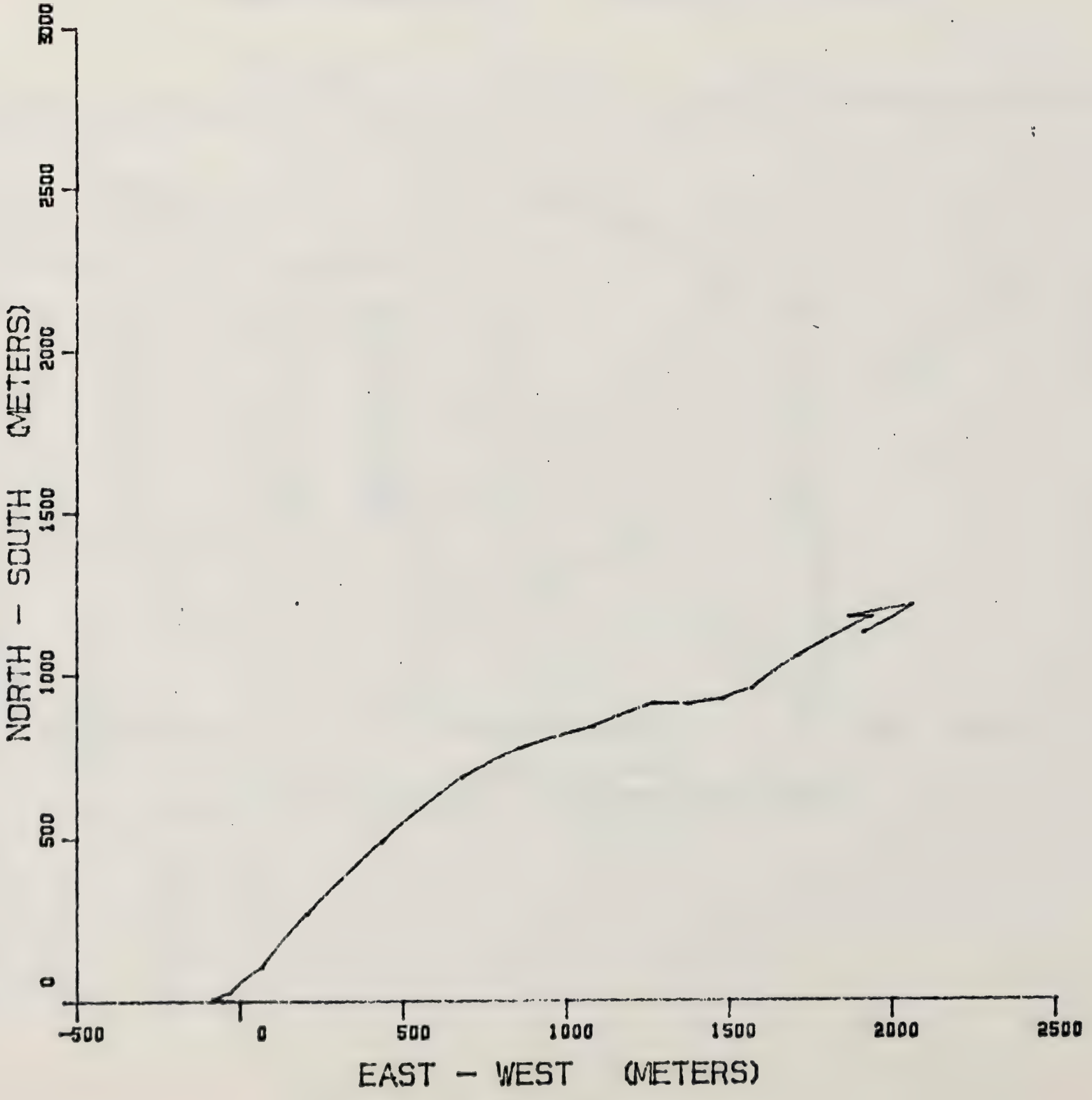
432.	128	2.3	3.2
656.	236	9.5	2.6
893.	224	18.7	2.3
1194.	223	29.2	2.4
1480.	228	34.3	2.9
1799.	236	27.9	2.3
2091.	248	23.5	1.6
2415.	251	23.6	1.1
2687.	256	16.4	
2845.	266	11.6	
3028.	256	11.2	
3228.	240	14.9	
3549.	239	23.4	
3980.	233	10.8	
3944.	254	7.0	
4326.	315	3.6	

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
132.	128	.7	3.2
200.	236	2.9	2.6
272.	224	5.7	2.3
364.	223	8.9	2.4
451.	228	10.5	2.9
548.	236	8.5	2.3
637.	248	7.2	1.6
736.	251	7.2	1.1
819.	256	5.0	
867.	266	3.5	
923.	256	3.4	
984.	240	4.5	
1062.	239	7.1	
1213.	233	3.3	
1202.	254	2.1	
1319.	315	1.1	

C-B SOUNDING -- PLOTTED ON 08/JUN/78

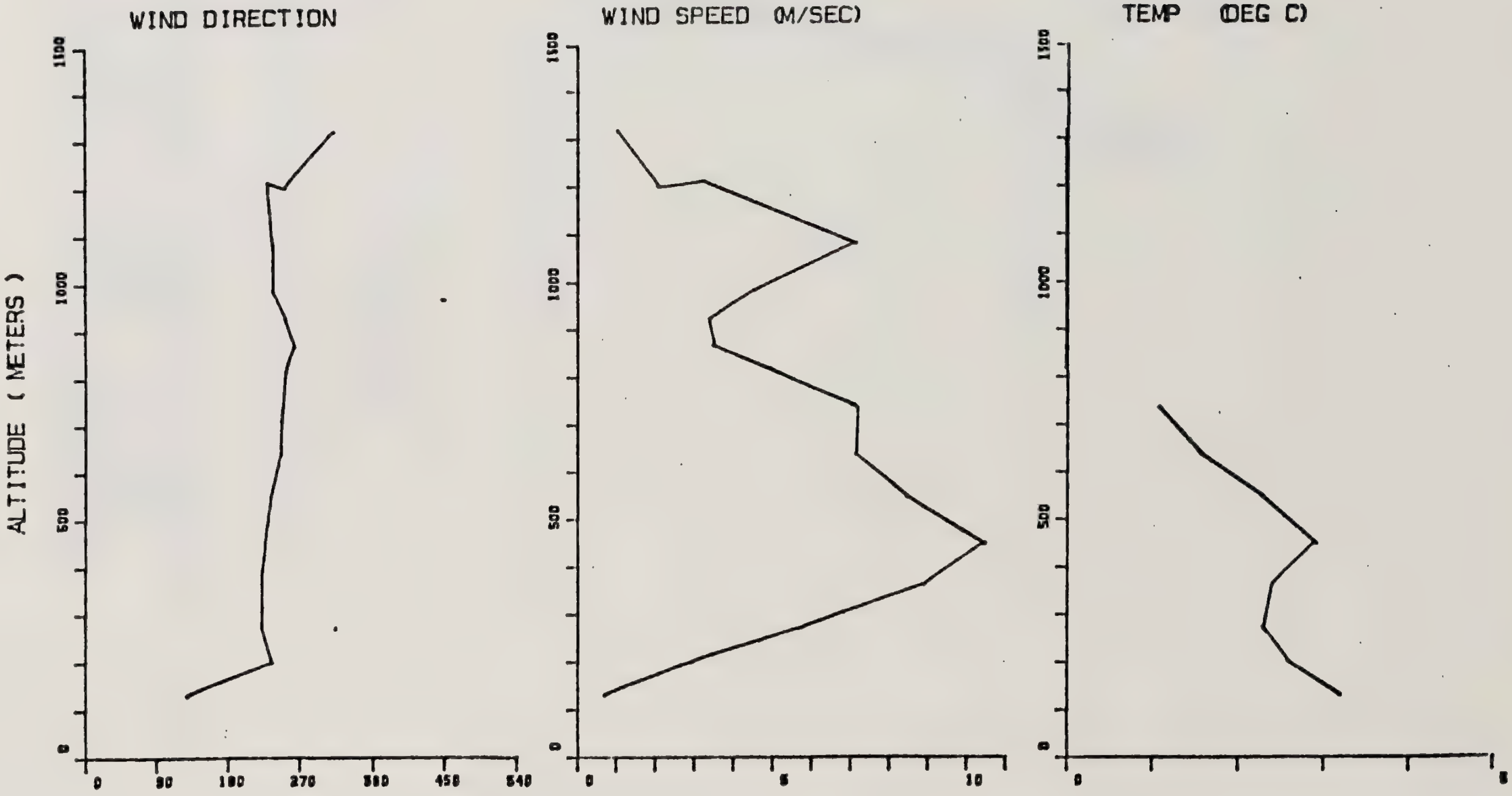
TIME 700 DATE 3/23/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 08/JUN/78

TIME 700 DATE 5/23/78



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C-B PIBAL SOUNDING                    RUN ON 08/JUN/78

SOUNDING DATE  3-23-78

BALLOON RELEASED 1330 CST


BASE LINE ANGLE            258.0
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

               THEODOLITE #1           THEODOLITE #2


    TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
     .0            .0         .0          78.0        -.0      .0
     .5          40.1       32.0          68.1        4.5     6.3
    1.0          46.8       31.0          67.2        5.8     4.7
    1.5          54.7       28.8          66.6        7.2     4.2
    2.0          58.5       27.7          66.2        8.6     3.5
    2.5          61.6       27.3          66.3        9.9     2.7
    3.0          65.4       27.2          67.1       11.1     2.3
    3.5          68.8       27.2          68.2       12.3     1.6
    4.0          72.1       27.8          69.1       13.3      .8
    4.5          74.7       28.6          70.1       14.5     -.3
    5.0          76.6       29.7          71.0       15.8    -1.6
    5.5          78.4       31.2          71.9       17.4    -2.5
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO        ERROR

     1      379.7        7.2
     2      476.9        8.1
     3      634.1        9.4
     4      746.9       10.5
     5      837.6       11.5
     6      923.1       12.1
     7      976.2       12.7
     8     1076.3       12.4
     9     1125.6       12.6
    10     1151.4       13.0
    11     1183.7       13.7


          HEIGHT  DIRECTION  SPEED  TEMP
           FEET    DEGREES   FT/SEC

            819.      224      30.9   6.3
           1030.      247      19.9   4.7
           1292.      249      22.9   4.2
           1560.      251      19.6   3.5
           1805.      264      14.6   2.7
           1984.      282      11.9   2.3
           2165.      323       7.2   1.6
           2193.      356       6.7    .8
           2336.      307       6.5   -.3
           2573.      287       8.5  -1.6
```
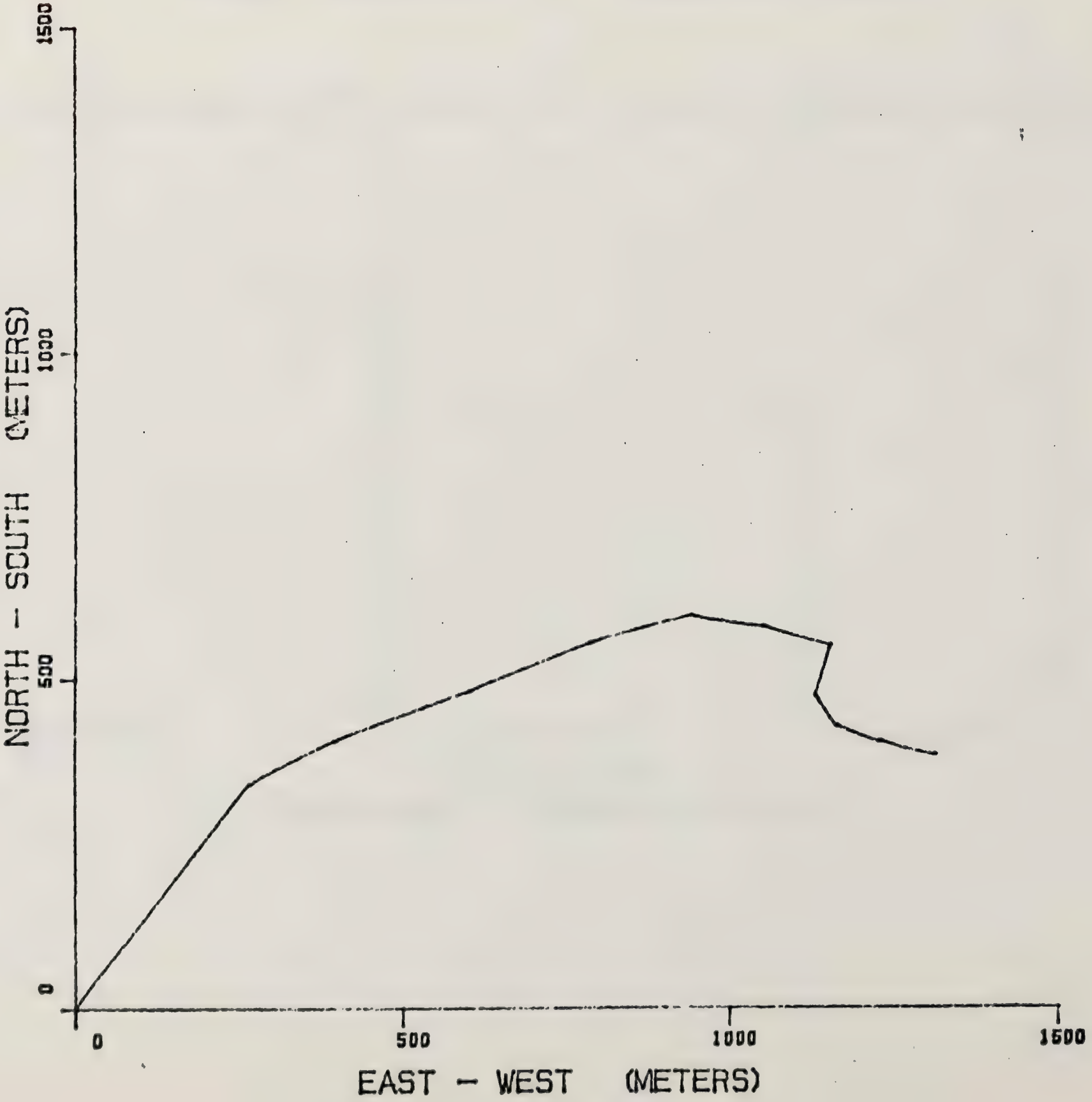

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
250.	224	9.4	6.3
314.	247	6.1	4.7
394.	249	7.0	4.2
476.	251	6.0	3.5
550.	264	4.5	2.7
605.	282	3.6	2.3
660.	323	2.2	1.6
668.	356	2.0	.8
712.	307	2.0	-.3
784.	287	2.6	-1.6

C-B SOUNDING — PLOTTED ON 08/JUN/78

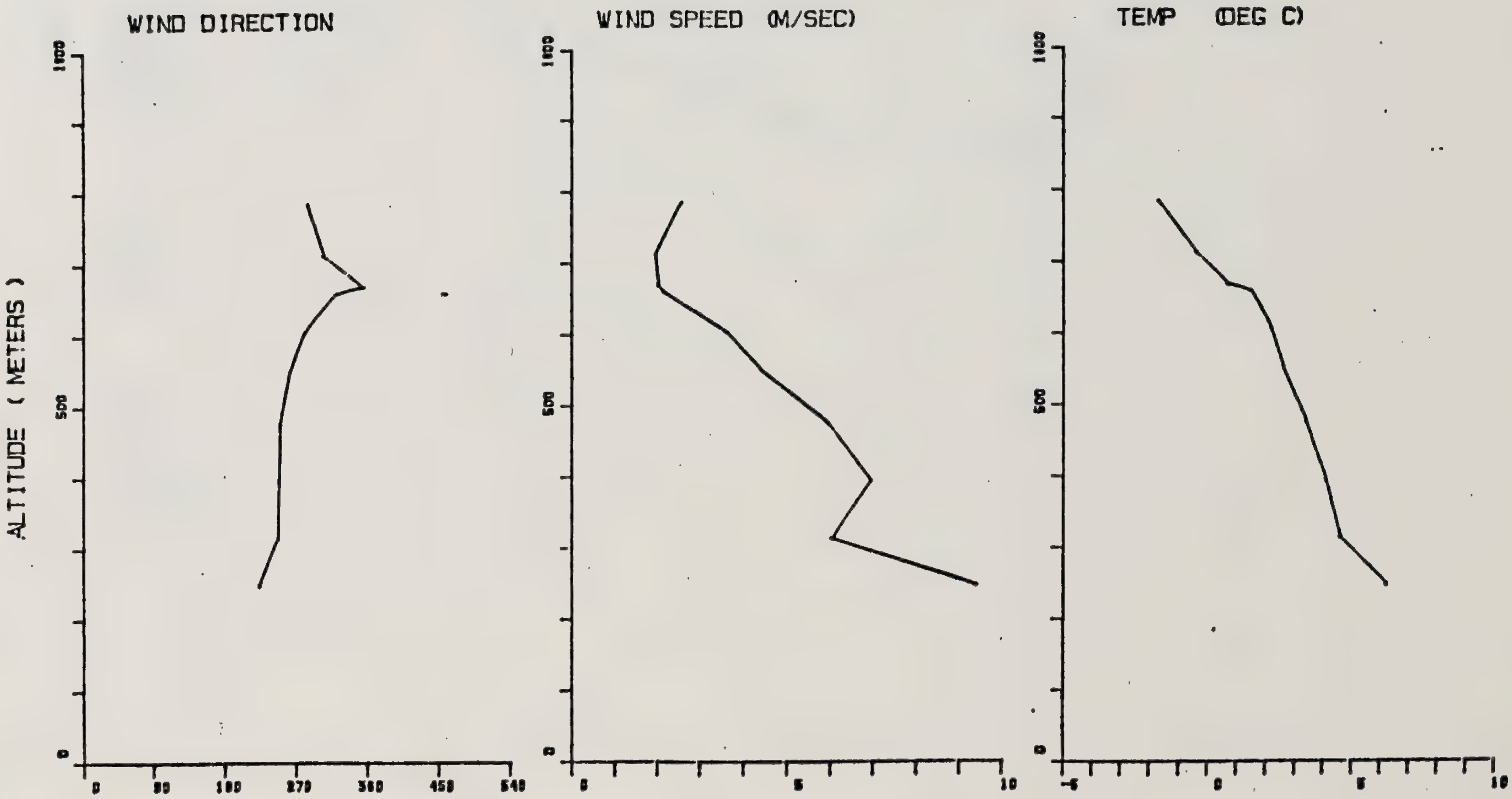
TIME 1330 DATE 3/23/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 08/JUN/78

TIME 1330 DATE 5/23/78



C-b Sounding

Time: Morning   Date: 3/24/78

No data taken due to snow storm.

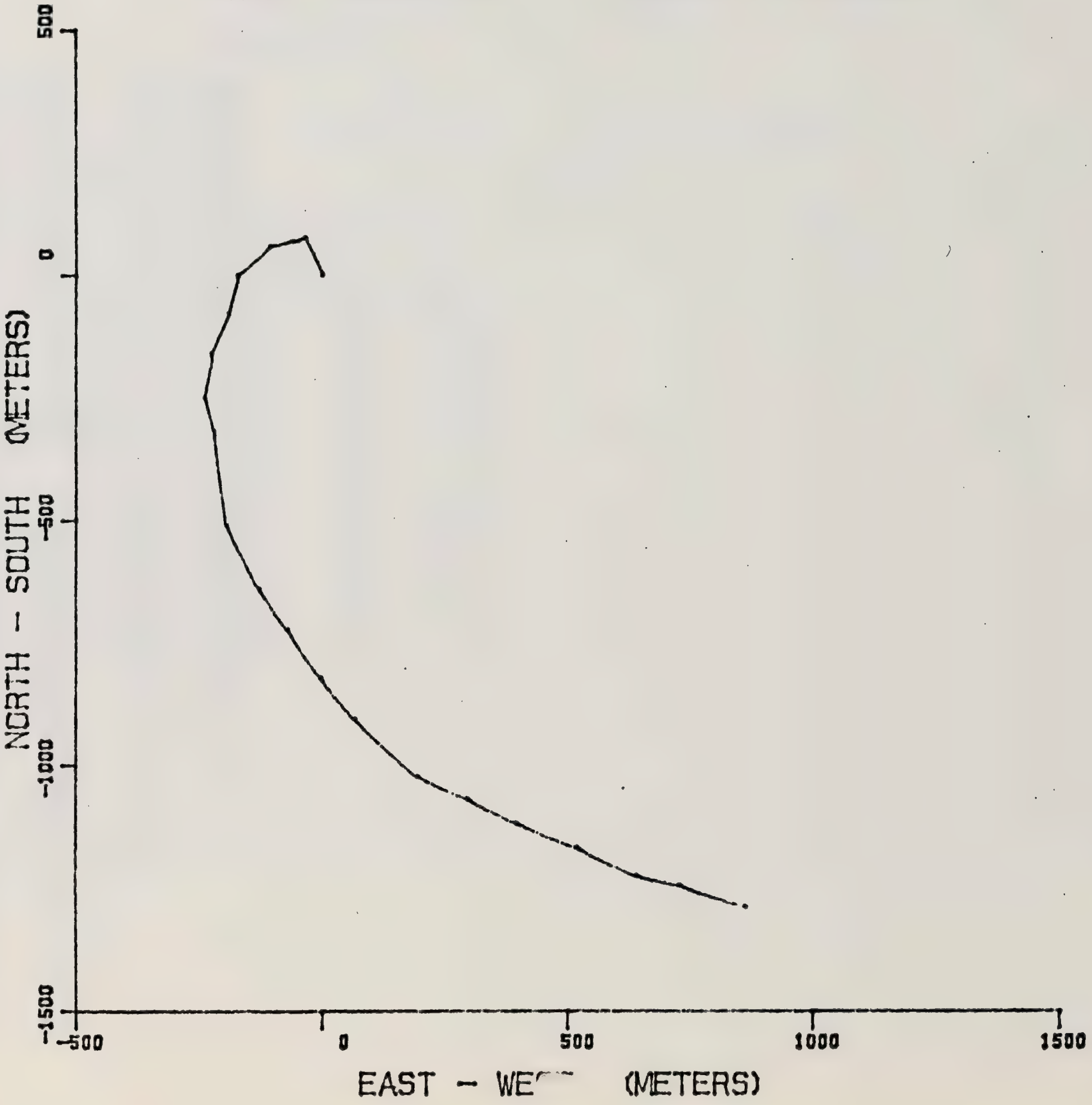
```
C-8 PIBAL SOUNDING                     RUN ON 08/JUN/78

SOUNDING DATE  3-24-78

BALLOON RELEASED 1400 CST

BASE LINE ANGLE            256.0
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

             THEODOLITE #1            THEODOLITE #2

   TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
    .0            .0         .0          78.0        -.0      .0
    .5         335.2       69.4          71.3        3.6     7.0
   1.0         315.1       73.3          71.9        6.6     6.5
   1.5         290.0       72.5          71.0        9.6     5.6
   2.0         260.5       70.6          73.2       15.9     4.4
   2.5         237.7       66.7          75.1       17.9     3.7
   3.0         226.9       61.6          78.3       20.9     3.0
   3.5         217.9       58.5          82.3       24.0     2.3
   4.0         206.5       56.3          82.7       27.7     1.2
   4.5         198.3       53.7          93.8       30.0      .4
   5.0         189.7       51.3          96.6       31.1     -.3
   5.5         184.2       50.0         101.2       32.0     -.8
   6.0         179.3       48.6         104.2       32.3    -1.6
   6.5         175.1       47.8         106.3       32.8    -2.2
   7.0         169.0       46.8         108.8       32.6    -2.8
   7.5         164.4       46.0         109.0       32.3    -3.2
   8.0         160.5       45.5         109.3       32.3    -4.0
   8.5         156.2       44.6         109.4       32.0    -4.9
   9.0         152.7       44.0         109.7       32.0    -5.5
   9.5         150.0       43.3         109.4       31.6    -6.4
  10.0         146.6       42.7         109.3       31.4    -7.1
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

    1      443.8        5.3
    2      376.2        5.4
    3      464.3        5.6
    4      390.4        5.9
    5      485.6        5.9
    6      480.3        6.1
    7      463.0        6.3
    8      820.6        6.7
    9      424.6        7.5
   10      432.2        8.2
   11      503.4        8.7
   12      499.0        9.4
   13      519.2       10.0
   14      473.2       11.0
   15      519.9       11.6
   16      553.0       12.2
   17      593.8       12.9
   18      619.7       13.8
   19      644.8       14.2
```

```
20      656.4       15.0

     HEIGHT   DIRECTION   SPEED   TEMP
      FEET     DEGREES    FT/SEC

       580.       140        4.8   7.0
       801.        76        4.0   6.5
      1049.        59        7.1   5.6
      1516.        32        8.7   4.4
      1608.        18        9.2   3.7
      1785.        15        9.8   3.0
      2011.       359        6.5   2.3
      2234.       351       14.4   1.2
      2657.       345       16.5    .4
      2919.       331       13.4   -.3
      3127.       326       12.0   -.8
      3344.       324       12.5  -1.6
      3588.       316       15.4  -2.2
      3913.       306       15.4  -2.8
      4068.       296       12.2  -3.2
      4276.       294       13.3  -4.0
      4470.       294       14.5  -4.9
      4726.       291       12.2  -5.5
      4816.       286       12.7  -6.4

     HEIGHT   DIRECTION   SPEED   TEMP
     METERS    DEGREES    M/SEC

       177.       140        1.5   7.0
       244.        76        1.2   6.5
       320.        59        2.2   5.6
       462.        32        2.7   4.4
       490.        18        2.8   3.7
       544.        15        3.0   3.0
       613.       359        2.6   2.3
       681.       351        4.4   1.2
       810.       345        5.6    .4
       890.       331        4.1   -.3
       953.       326        3.7   -.8
      1019.       324        3.8  -1.6
      1094.       316        4.7  -2.2
      1193.       306        4.7  -2.8
      1240.       296        3.7  -3.2
      1303.       294        4.1  -4.0
      1362.       294        4.4  -4.9
      1440.       291        3.7  -5.5
      1468.       286        3.9  -6.4
```

C-B SOUNDING -- PLOTTED ON 08/JUN/78

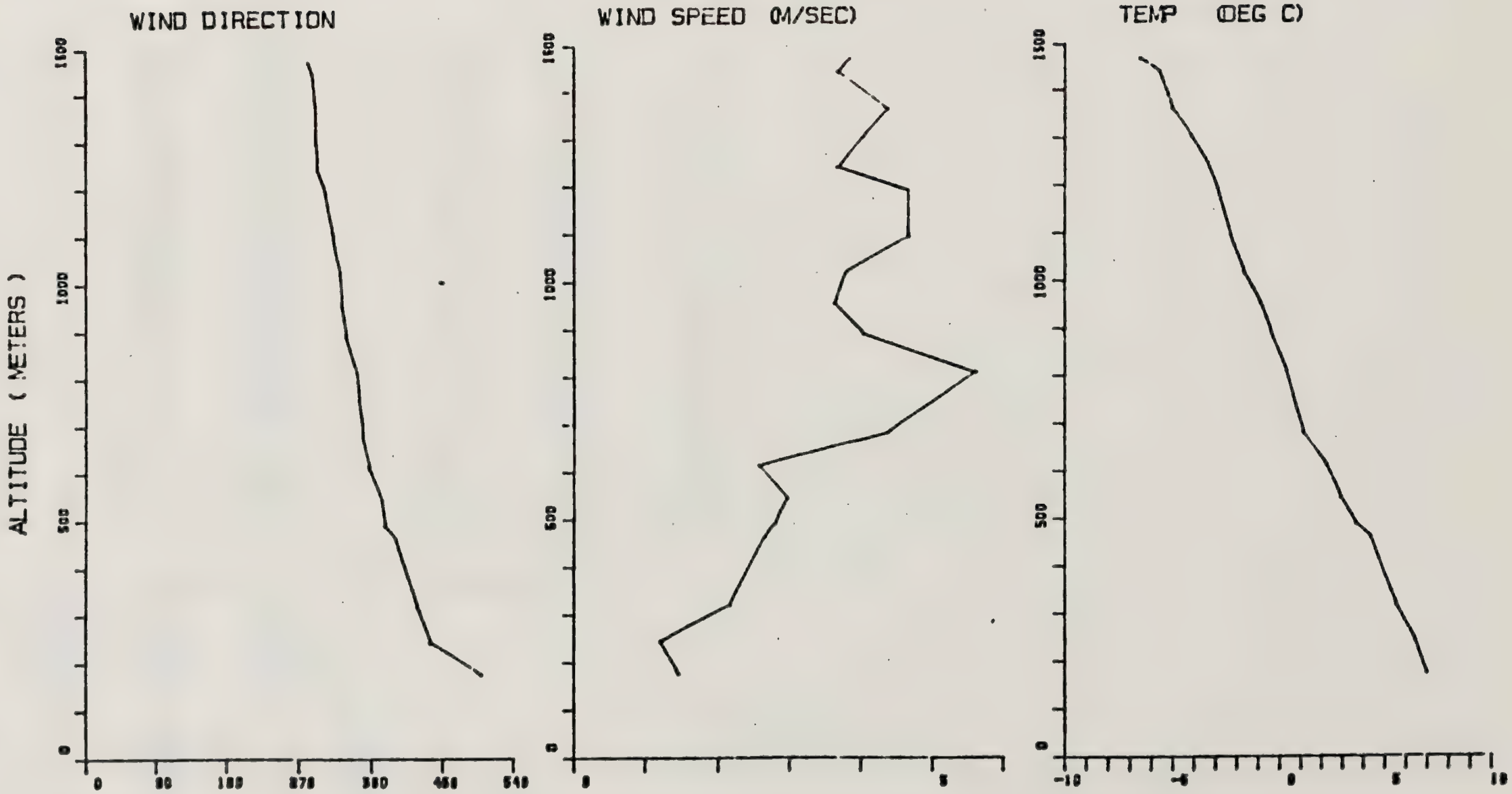
TIME 1400 DATE 3/24/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 08/JUN/78

TIME 1400 DATE 3/24/78



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C-8 PIBAL SOUNDING                    RUN ON 08/JUN/78

SOUNDING DATE  3-27-78

BALLOON RELEASED  655 CST

BASE LINE ANGLE           258.0
BASE LINE LENGTH (FT)    5473.5
TIME INTERVAL (SEC)        30.0
BASE LINE HEIGHT (FT)     100.0

             THEODOLITE #1           THEODOLITE #2

    TIME      AZIMUTH  ELEVATION      AZIMUTH  ELEVATION    TEMP
      .0           .0         .0         78.0        -.0      .0
      .5        299.2       28.7         70.0        2.2     4.5
     1.0        305.1       28.1         66.8        5.0     3.6
     1.5        303.2       37.7         65.0        7.9     4.9
     2.0        301.1       50.1         65.4       11.0     5.2
     2.5        314.6       54.8         64.2       14.0     4.6
     3.0        336.9       55.7         61.2       15.9     4.4
     3.5        357.4       50.4         58.9       17.1     4.0
     4.0         10.6       47.5         56.4       17.5     3.8
     4.5         22.1       44.7         56.0       18.0     3.4
     5.0         29.0       42.6         55.0       18.6     3.0
     5.5         32.6       41.6         55.3       19.2     1.9
     6.0         35.0       41.0         55.0       20.0     1.0
     6.5         37.9       40.6         54.9       20.7      .2
     7.0         40.0       40.9         55.0       21.4     -.1
     7.5         41.4       40.9         55.0       22.0     -.3
     8.0         42.5       40.9         55.1       22.7     -.9
     8.5         43.6       40.8         55.0       23.7    -1.6
     9.0         44.8       40.7         55.0       23.6    -2.4
     9.5         45.2       40.5         54.8       24.2    -3.1
    10.0         46.0       40.3         54.4       24.7    -3.9
    10.5         47.5       39.8         54.8       25.0    -4.6
    11.0         50.1       38.8         55.8       25.5    -5.1
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

 TIME      RHO       ERROR

    1      213.6       5.1
    2      127.7       5.3
    3      272.0       5.5
    4      398.2       5.7
    5      345.3       6.1
    6      389.4       6.9
    7      296.0       8.0
    8      463.9       9.2
    9      539.1      10.6
   10      690.6      12.0
   11      686.5      12.9
   12      727.7      13.9
   13      817.6      15.0
   14      901.5      15.7
   15      950.4      16.3
   16      957.5      17.1
   17      988.2      18.4
```

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18    1068.4      18.7
19    1094.7      19.5
20    1200.2      20.5
21    1232.5      21.5
22    1241.7      23.7

      HEIGHT   DIRECTION   SPEED   TEMP
       FEET     DEGREES    FT/SEC

        430.      126       19.6    4.5
        599.      134        6.9    3.8
        899.      329        1.3    4.9
       1191.      244        4.6    5.2
       1480.      211       12.5    4.6
       1803.      214       20.5    4.4
       2099.      218       24.3    4.0
       2438.      229       25.4    3.8
       2766.      233       26.8    3.4
       3167.      234       21.3    3.0
       3441.      236       16.4    1.9
       3769.      235       17.4    1.0
       4112.      242       14.1     .2
       4376.      244       10.5    -.1
       4629.      239       11.2    -.3
       4919.      236       15.8    -.9
       5400.      238       12.7   -1.6
       5506.      237        8.6   -2.4
       5755.      231       13.8   -3.1
       6102.      239       16.7   -3.9
       6415.      247       27.6   -4.6

      HEIGHT   DIRECTION   SPEED   TEMP
      METERS    DEGREES    M/SEC

        131.      126        6.0    4.5
        183.      134        2.1    3.8
        274.      329         .4    4.9
        363.      244        1.4    5.2
        451.      211        3.8    4.6
        549.      214        6.2    4.4
        640.      218        7.4    4.0
        743.      229        7.7    3.8
        849.      233        8.2    3.4
        971.      234        6.5    3.0
       1049.      236        5.0    1.9
       1149.      235        5.3    1.0
       1253.      242        4.3     .2
       1334.      244        3.2    -.1
       1411.      239        3.4    -.3
       1499.      236        4.8    -.9
       1646.      238        3.9   -1.6
       1676.      237        2.6   -2.4
       1754.      231        4.2   -3.1
       1860.      239        5.1   -3.9
       1955.      247        8.5   -4.6
```
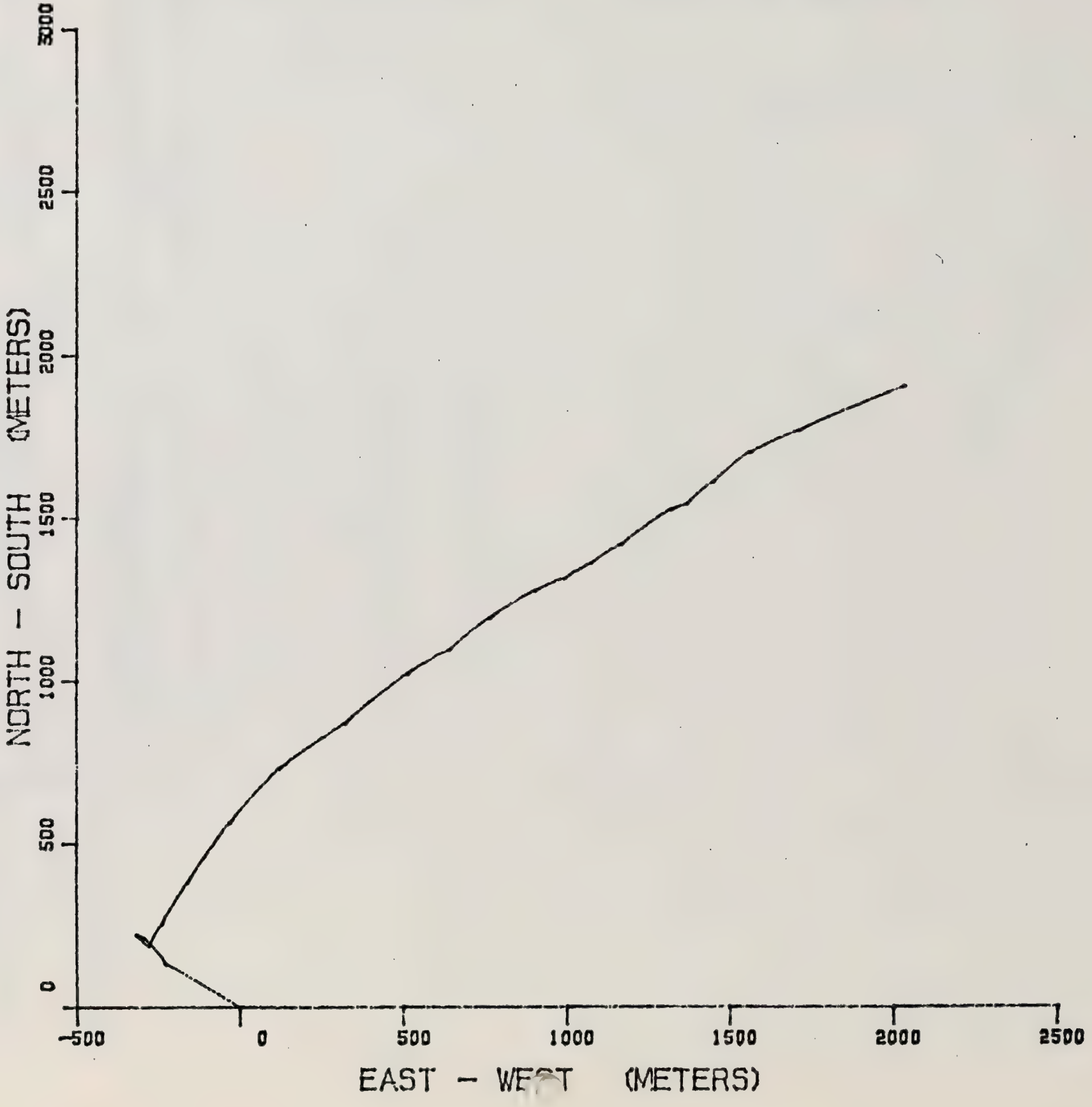

C-B SOUNDING - PLOTTED ON 08/JUN/78

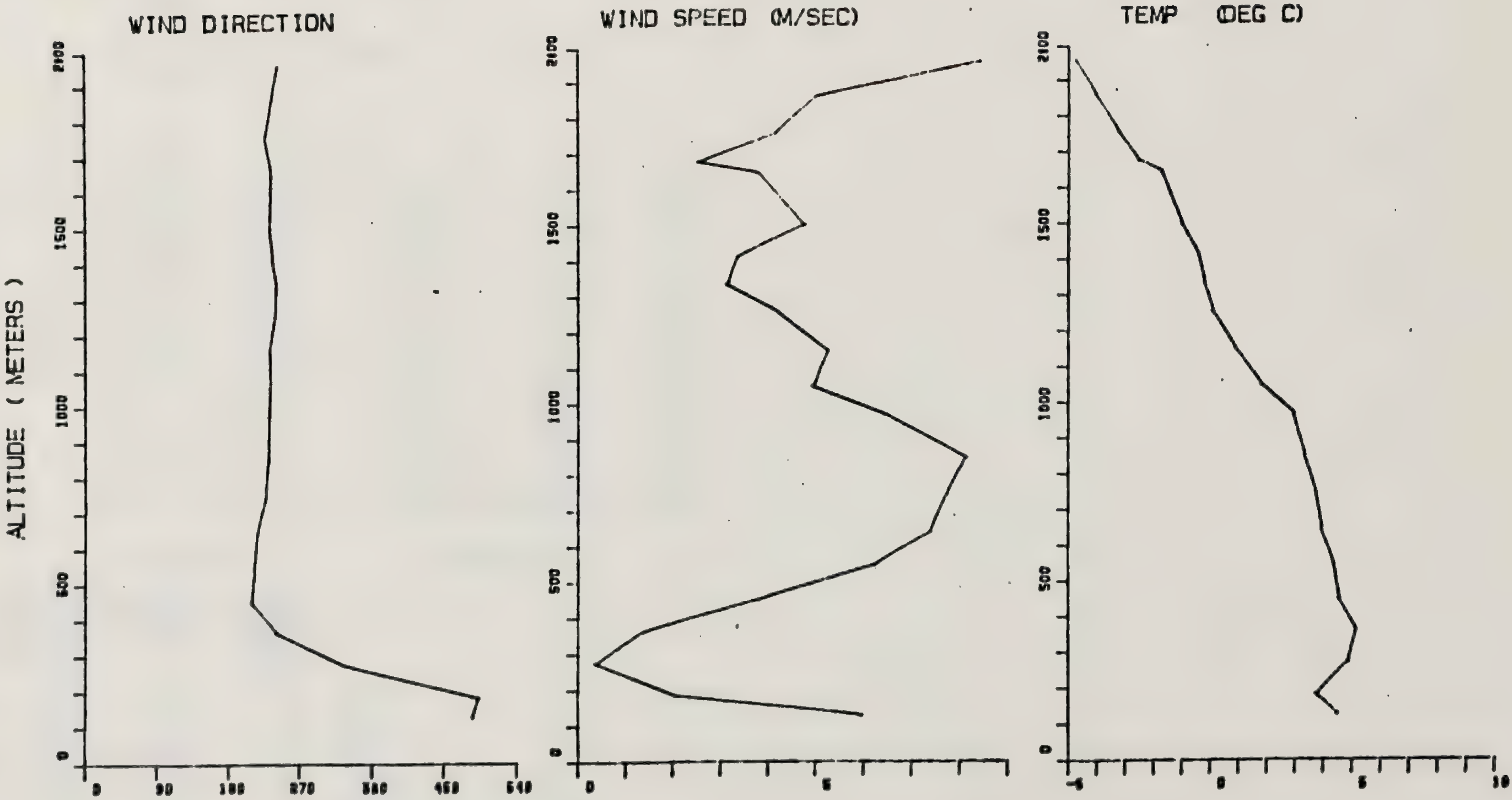
TIME 655 DATE 3/27/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 08/JUN/78

TIME 655 DATE 3/27/78



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C-B PIBAL SOUNDING                        RUN ON 08/JUN/78

SOUNDING DATE  3-27-78

BALLOON RELEASED 1400 CST

BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

                  THEODOLITE #1            THEODOLITE #2

    TIME      AZIMUTH  ELEVATION      AZIMUTH  ELEVATION    TEMP
      .0           .0         .0         78.0        -.0      .0
      .5         35.1       46.5         70.2        3.0    14.1
     1.0         20.3       45.5         66.1        7.1    12.6
     1.5         16.3       44.1         62.4       10.1    12.1
     2.0         21.4       45.4         60.8       12.7    11.0
     2.5         27.8       44.8         60.5       14.4    10.1
     3.0         34.5       42.4         59.9       15.2     9.1
     3.5         39.2       39.3         59.9       15.3     8.6
     4.0         47.2       38.7         60.8       15.4     7.9
     4.5         50.5       37.3         61.2       16.7     7.3
     5.0         52.2       37.3         61.4       17.3     6.8
     5.5         54.4       37.6         62.0       18.0     6.5
     6.0         57.2       38.1         62.8       18.6     6.1
     6.5         61.0       38.1         64.2       19.2     5.4
     7.0         64.4       38.3         65.4       19.8     4.4
     7.5         68.4       37.7         67.1       20.2     4.0


COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO       ERROR

      1     455.6        5.9
      2     424.8        6.8
      3     443.4        7.6
      4     515.8        8.4
      5     523.5        9.3
      6     606.1       10.4
      7     622.9       11.4
      8     854.5       12.0
      9     847.2       13.4
     10     894.6       13.9
     11     930.7       14.3
     12    1001.2       14.5
     13    1046.5       14.7
     14    1110.8       14.8
     15    1149.3       15.0
```

```
HEIGHT  DIRECTION  SPEED  TEMP
 FEET    DEGREES   FT/SEC

  607.     198      19.3  14.1
 1073.     184      17.6  12.6
 1457.     200      14.0  12.1
 1848.     228      13.2  11.0
 2155.     236      17.2  10.1
 2443.     238      20.2   9.1
 2621.     257      17.1   8.6
 2752.     258      20.0   7.9
 3171.     247      16.9   7.3
 3345.     266       7.8   6.8
 3514.     298       6.6   6.5
 3613.     313       8.5   6.1
 3725.     319       9.4   5.4
 3795.     323      10.1   4.4
```

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HEIGHT  DIRECTION  SPEED  TEMP
METERS   DEGREES   M/SEC

  185.     198       5.9  14.1
  327.     184       5.4  12.6
  444.     200       4.3  12.1
  563.     228       4.0  11.0
  657.     236       5.2  10.1
  745.     238       6.2   9.1
  799.     257       5.2   8.6
  839.     258       6.1   7.9
  967.     247       5.2   7.3
 1020.     266       2.4   6.8
 1071.     298       2.0   6.5
 1101.     313       2.6   6.1
 1135.     319       2.9   5.4
 1157.     323       3.1   4.4
```
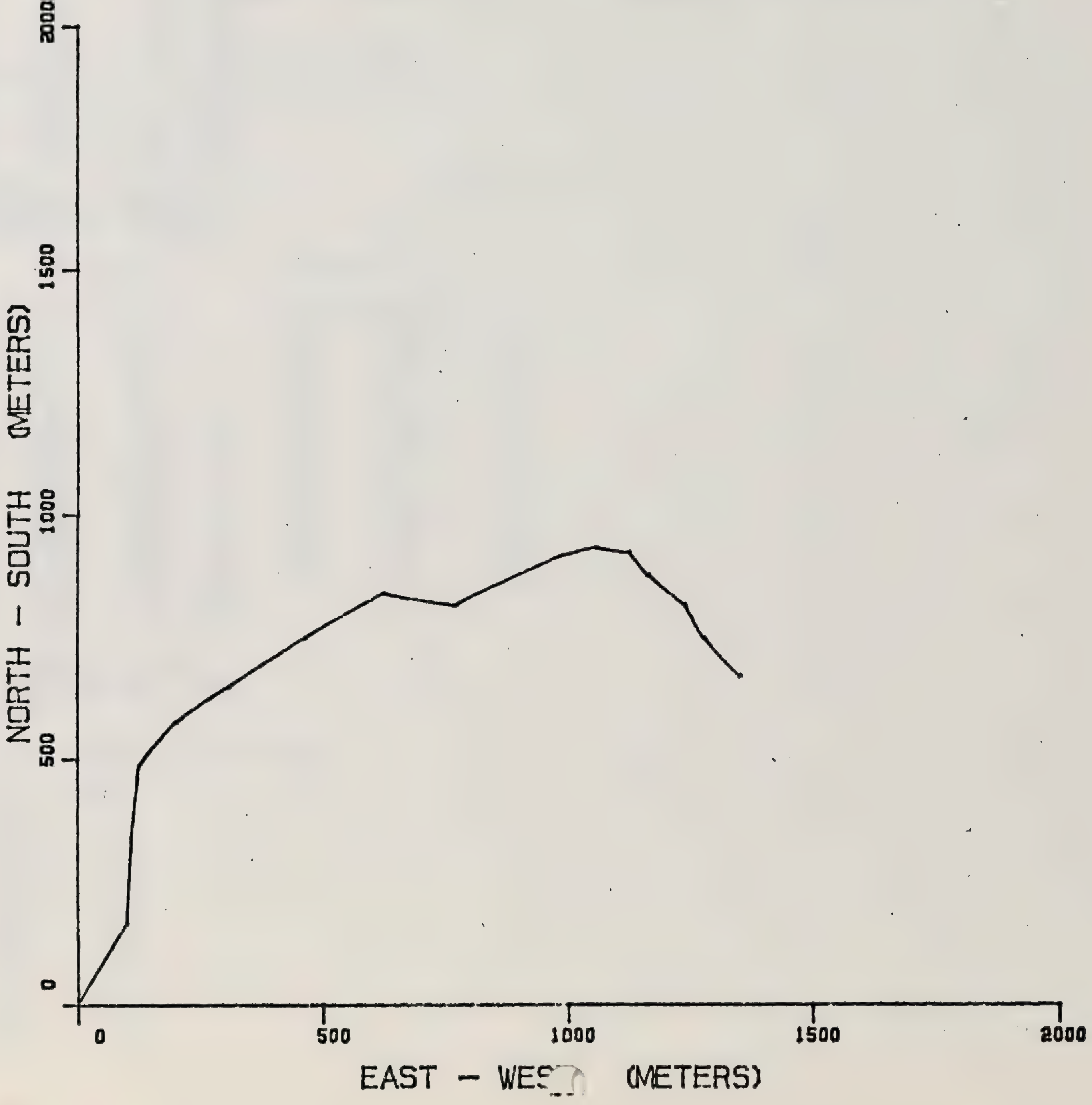
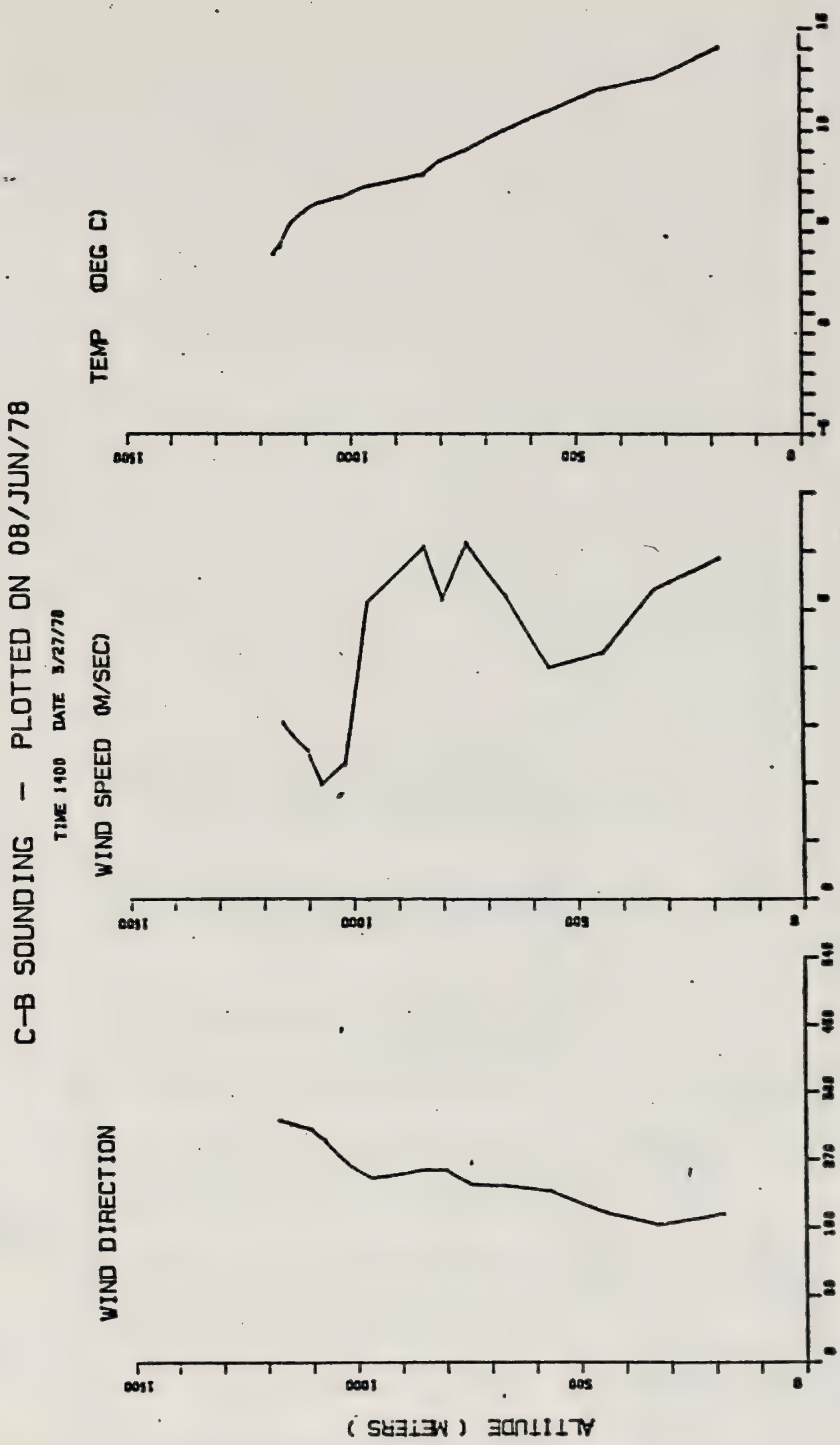

C–B SOUNDING – PLOTTED ON 08/JUN/78

TIME 1400 DATE 3/27/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN





C-B SOUNDING - PLOTTED ON 08/JUN/78

TIME 1400 DATE 3/27/78

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C-B PIBAL SOUNDING                        RUN ON 08/JUN/78

SOUNDING DATE  3-29-78

BALLOON RELEASED  650 CST

BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

                 THEODOLITE #1             THEODOLITE #2

     TIME       AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
      .0            .0         .0          78.0        -.0       .0
      .5          77.1       59.9          72.5        3.6      9.4
     1.0          62.1       63.0          71.6        5.1     12.6
     1.5          29.2       65.0          70.8        7.3     13.7
     2.0            .9       56.0          66.8       10.0     14.3
     2.5         348.0       50.1          61.6       12.6     14.0
     3.0         339.2       46.8          58.4       15.5     13.9
     3.5         336.8       45.6          53.5       18.5     13.5
     4.0         336.3       44.5          50.2       20.3     13.2
     4.5         336.8       44.8          48.0       22.4     12.8
     5.0         331.5       46.1          46.1       25.2     12.5
     5.5         325.9       47.9          45.8       28.3     12.3
     6.0         321.2       49.3          43.5       31.5     11.9
     6.5         317.1       50.4          42.0       34.6     11.0
     7.0         315.9       51.0          40.7       37.1     10.3
     7.5         315.1       52.3          39.6       39.4      9.5
     8.0         313.7       53.6          39.4       41.3      9.1
     8.5         311.7       55.3          39.1       44.8      8.2
     9.0         312.3       56.6          38.9       45.4      7.6
     9.5         315.0       57.0          38.5       45.9      7.4
    10.0         319.2       57.0          37.3       46.0      6.6
    10.5         324.0       56.8          36.8       46.0      6.1
    11.0         328.1       56.2          34.2       45.6      5.6
    11.5         331.1       55.5          32.3       45.2      4.9
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO       ERROR

      1     545.3        5.4
      2     536.3        5.7
      3     407.0        6.0
      4     322.4        6.5
      5     352.6        6.9
      6     248.4        7.2
      7     304.1        7.7
      8     313.1        8.3
      9     306.6        8.7
     10     313.2        8.8
     11     264.5        8.8
     12     322.2        9.0
     13     329.4        9.2
     14     286.6        9.6
     15     296.1        9.9
     16     302.3       10.1
```

```
17      243.6       10.6
18      308.5       10.8
19      260.3       11.3
20      223.0       11.9
21      128.3       12.5
22      184.1       13.4
23      214.5       14.1

        HEIGHT   DIRECTION   SPEED   TEMP
         FEET     DEGREES    FT/SEC

          434.       232       5.9    9.4
          658.       176       5.9   12.6
          947.       159      12.7   13.7
         1252.       152      17.5   14.3
         1535.       140      15.6   14.0
         1750.       140      14.3   13.9
         2093.       157      13.4   13.5
         2348.       157       9.5   13.2
         2581.       112       7.5   12.6
         2812.        72       8.8   12.5
         3008.        71       8.7   12.3
         3293.        61       6.3   11.9
         3542.        87       6.0   11.0
         3794.       108       3.9   10.3
         4078.        82       2.4    9.5
         4262.        56       3.4    9.1
         4663.        65       1.3    8.2
         4837.       206       3.4    7.6
         5050.       196       7.5    7.4
         5323.       198      10.2    6.8
         5600.       192      12.8    6.1
         5952.       184      13.9    5.6

        HEIGHT   DIRECTION   SPEED   TEMP
        METERS    DEGREES    M/SEC

          132.       232       1.8    9.4
          201.       176       1.6   12.6
          289.       159       3.9   13.7
          362.       152       5.3   14.3
          468.       140       4.8   14.0
          533.       140       4.4   13.9
          638.       157       4.1   13.5
          716.       157       2.9   13.2
          787.       112       2.3   12.8
          857.        72       2.7   12.5
          917.        71       2.7   12.3
         1004.        81       2.5   11.9
         1080.        87       1.8   11.0
         1157.       108       1.2   10.3
         1243.        82        .7    9.5
         1305.        56       1.0    9.1
         1421.        65        .4    6.2
         1474.       206       1.0    7.6
         1539.       196       2.3    7.4
         1622.       198       3.1    6.8
         1707.       192       3.9    6.1
```

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1814.     160       4.2   5.6
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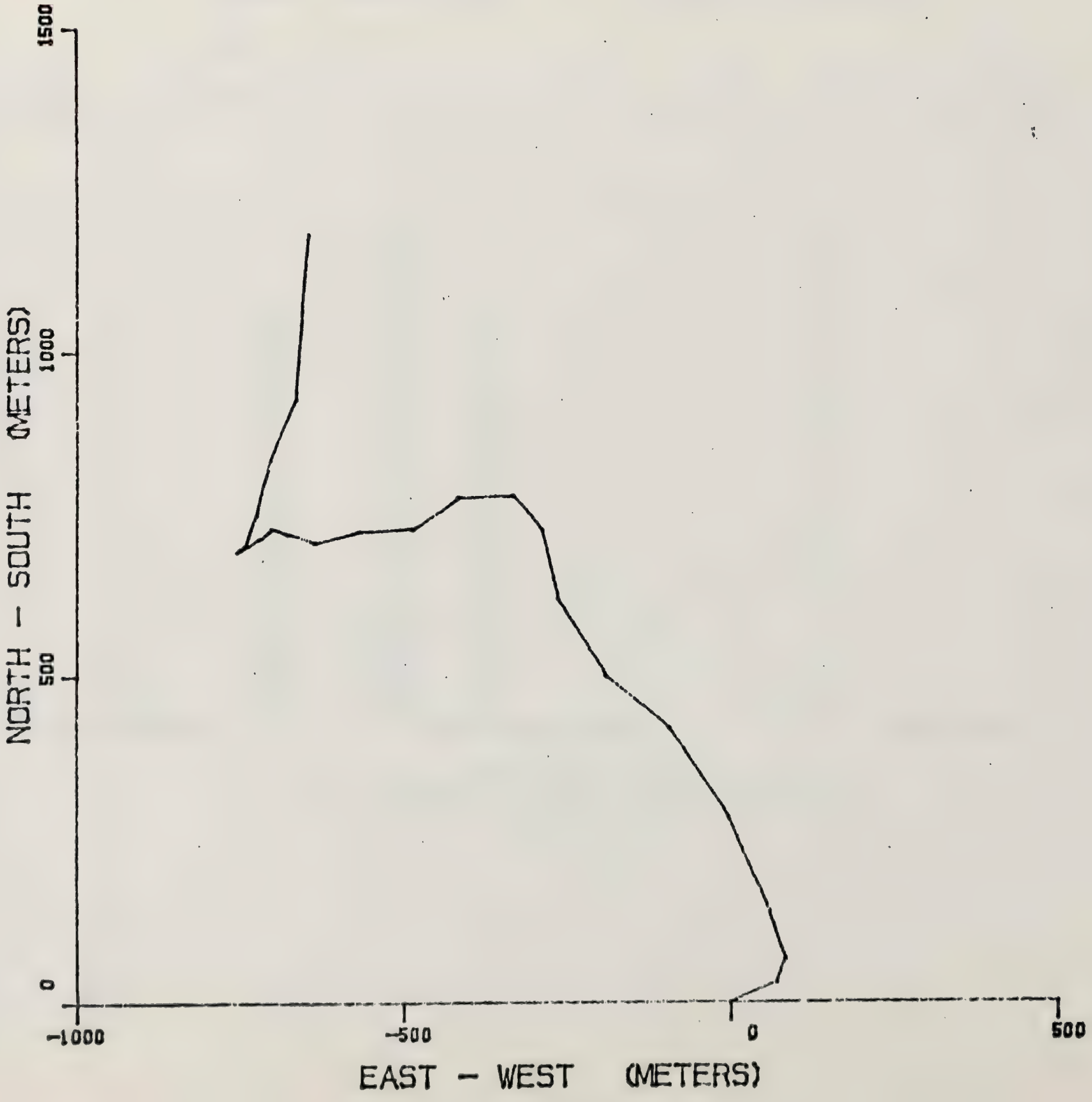
C-B SOUNDING — PLOTTED ON 08/JUN/78

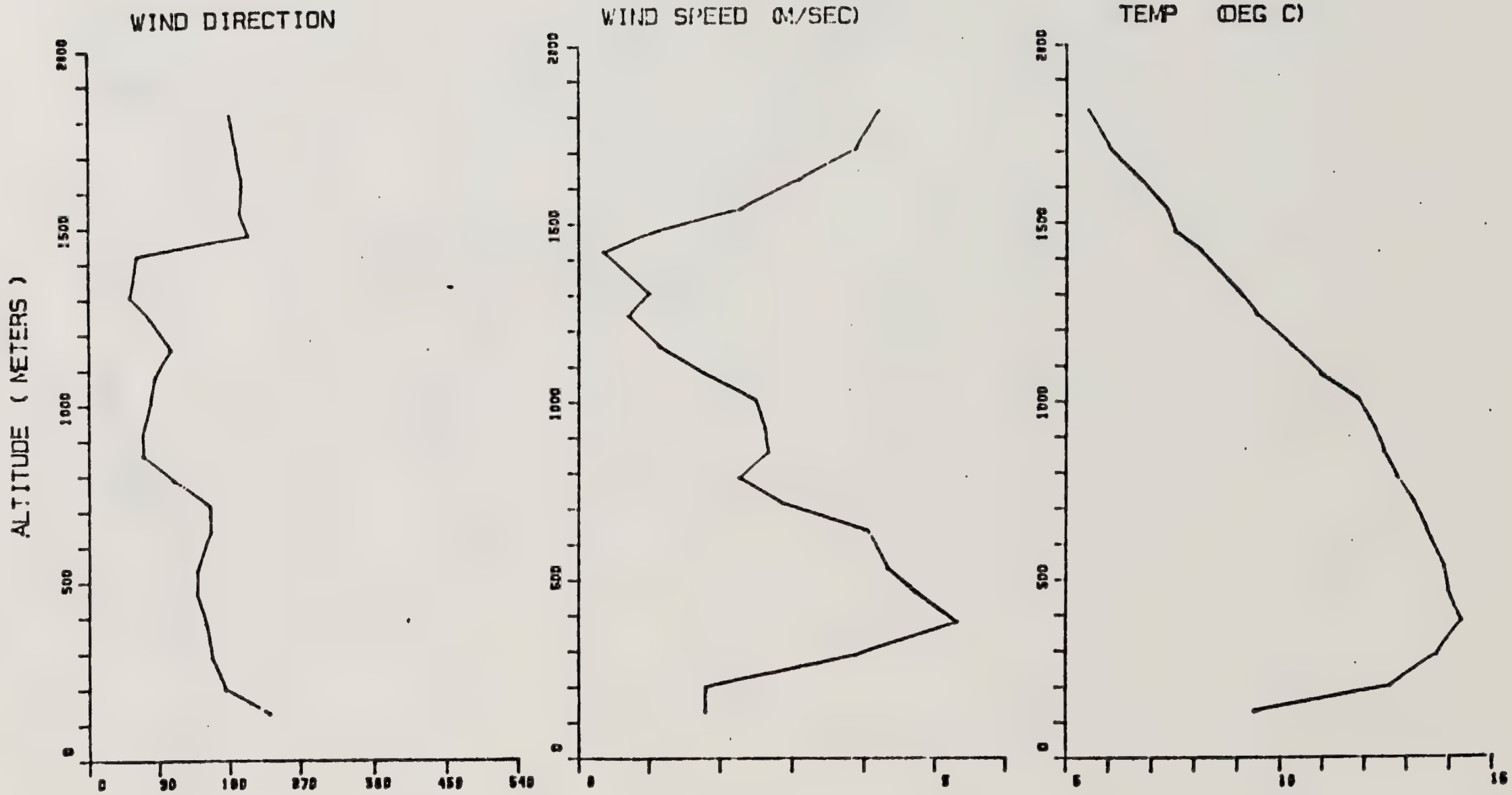
TIME 650 DATE 3/29/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 08/JUN/78

TIME 650 DATE 5/29/78



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C-H PINAL SOUNDING                         RUN ON 09/JUN/78

SOUNDING DATE  3-29-78

BALLOON RELEASED 1400 CST


BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

                 THEODOLITE #1              THEODOLITE #2


   TIME       AZIMUTH  ELEVATION        AZIMUTH  ELEVATION     TEMP
    .0            .0         .0           78.0        -.0        .0
    .5         349.1       29.5           75.0        2.1      19.3
   1.0         341.1       30.5           71.3        4.2      20.4
   1.5         342.1       27.5           65.0        6.9      18.6
   2.0         345.0       28.2           58.6       10.2      18.0
   2.5         347.8       29.0           54.6       12.7      17.5
   3.0         350.6       29.9           51.2       14.1      17.1
   3.5         356.1       29.5           48.8       14.5      16.6
   4.0           2.1       28.6           47.5       14.8      15.9
   4.5           5.5       27.2           45.7       15.5      15.0
   5.0          10.4       26.4           44.6       16.6      14.4
   5.5          10.5       26.4           43.6       16.2      13.4
   6.0          10.9       26.0           42.2       16.4      13.2
   6.5          11.6       25.6           40.8       16.5      12.6
   7.0          11.9       25.0           40.0       16.5      12.0
   7.5          12.2       24.8           39.5       16.6      11.3
   8.0          13.0       24.5           38.9       16.9      10.7
   8.5          13.6       24.0           38.4       16.9      10.1
   9.0          14.2       24.0           37.8       16.9       9.4
   9.5          14.7       23.9           37.7       17.7       8.9
  10.0          16.0       24.5           37.9       17.7       8.2
  10.5          17.1       24.6           38.4       17.8       7.5
  11.0          18.7       24.5           38.6       17.9       7.0
  11.5          20.0       24.5           38.6       18.1       6.3
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME       RHO        ERROR

     1       120.7         5.1
     2       105.7         5.4
     3       104.6         6.1
     4        96.0         7.0
     5       114.6         7.7
     6        41.2         8.5
     7        32.5         9.5
     8        65.0        10.6
     9        12.4        11.8
    10        16.1        13.4
    11        18.1        13.9
    12        43.5        14.8
    13        92.0        15.8
    14        78.8        16.5
    15        77.7        17.0
    16        45.4        17.9
```

17	117.3	18.6
18	90.6	19.5
19	70.6	20.2
20	64.0	20.8
21	61.7	21.2
22	74.9	22.3
23	93.5	23.6

HEIGHT FEET	DIRECTION DEGREES	SPEED FT/SEC	TEMP
203.	162	11.4	19.3
419.	160	15.7	20.4
690.	168	20.7	18.6
1063.	175	19.0	18.0
1373.	182	15.8	17.5
1653.	195	17.1	17.1
1879.	209	20.3	16.6
2102.	209	22.6	15.9
2337.	210	27.3	15.0
2674.	209	20.0	14.4
2798.	194	12.8	13.9
2974.	197	18.0	13.2
3181.	196	16.2	12.6
3277.	198	11.0	12.0
3374.	203	13.0	11.3
3567.	205	14.6	10.7
3715.	204	15.0	10.1
3857.	205	15.0	9.4
4070.	219	11.7	8.9
4254.	236	9.7	6.2
4344.	229	14.4	7.5
4584.	220	22.4	7.0

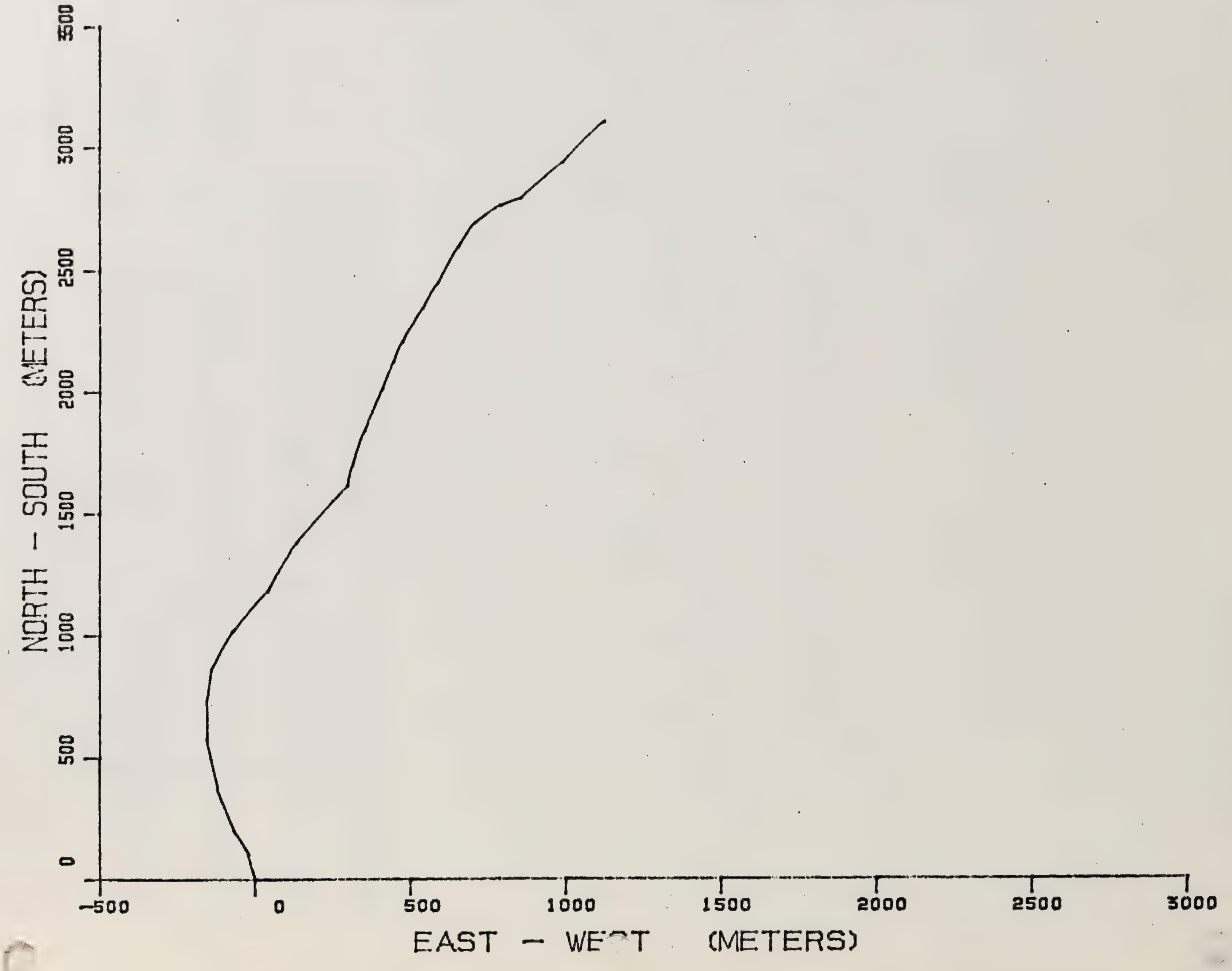
HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
62.	162	3.5	19.3
128.	160	4.8	20.4
210.	168	6.3	18.6
324.	175	5.8	18.0
418.	182	4.6	17.5
504.	195	5.2	17.1
573.	209	6.2	16.6
641.	209	6.9	15.9
712.	210	8.3	15.0
815.	209	6.1	14.4
853.	194	3.9	13.9
907.	197	5.5	13.2
970.	198	4.9	12.6
999.	198	3.4	12.0
1026.	203	4.0	11.3
1087.	205	4.5	10.7
1132.	204	4.6	10.1
1176.	205	4.6	9.4
1240.	219	3.6	8.9
1297.	236	3.0	8.2
1324.	229	4.4	7.5

1397.	220	6.8	7.0

C-B SOUNDING — PLOTTED ON 09/JUN/78

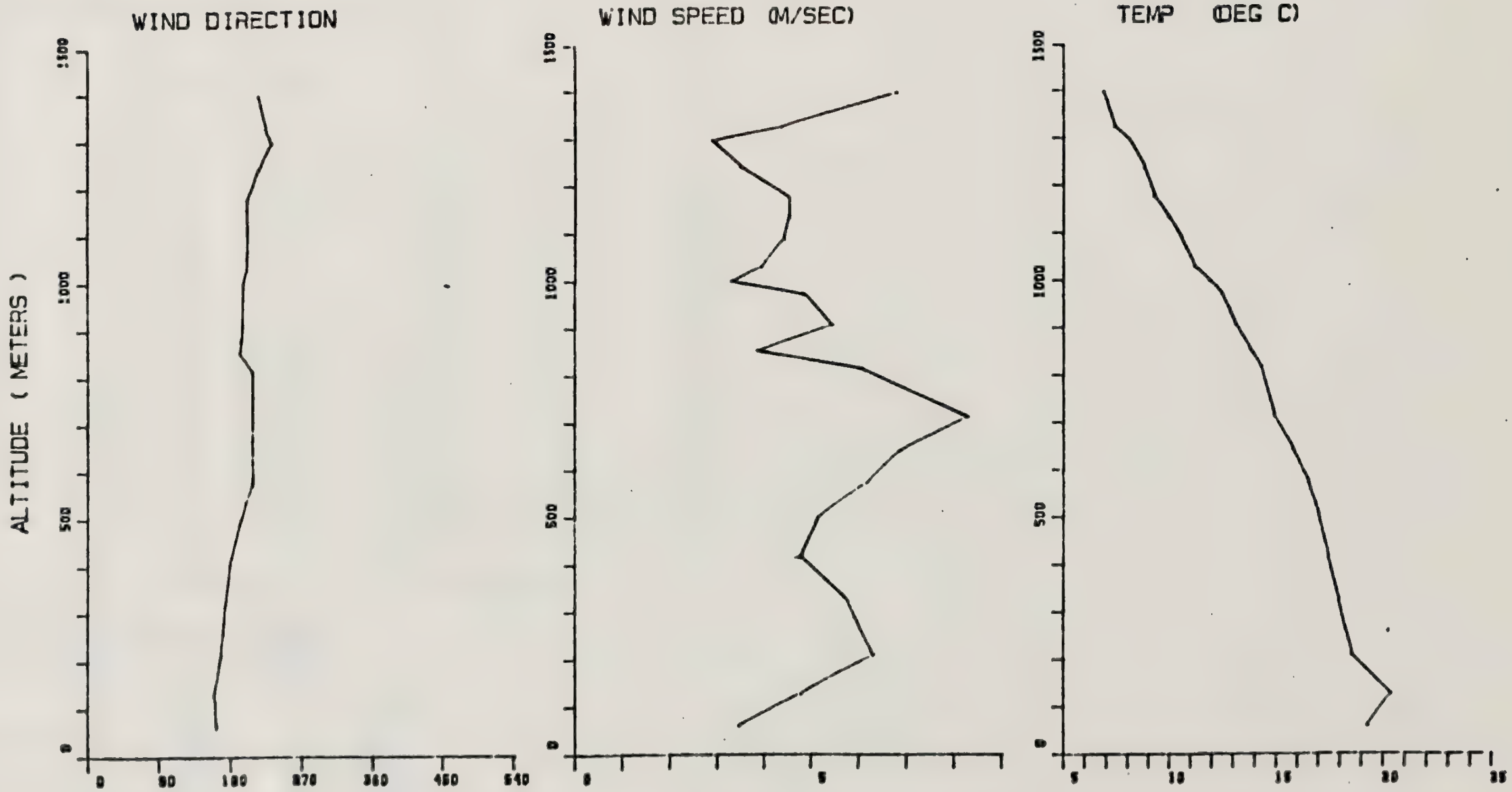
TIME 1400 DATE 3/29/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 09/JUN/78

TIME 1400 DATE 3/29/78



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C-B PIBAL SOUNDING                        RUN ON 08/JUN/78

SOUNDING DATE  3-31-78

BALLOON RELEASED  655 CST

BASE LINE ANGLE             258.0
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0

             THEODOLITE #1            THEODOLITE #2

   TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
     .0           .0         .0          78.0       -.0       .0
     .5        264.2       40.6          78.1       3.6     11.3
    1.0        314.1       46.6          75.7       4.5     11.6
    1.5        333.1       55.6          73.8       8.3     11.3
    2.0        348.0       57.9          71.0      11.1     10.7
    2.5         19.2       46.2          67.3      12.5     10.1
    3.0         26.4       34.5          63.9      12.7      9.5
    3.5         32.3       27.4          60.0      12.1      9.5
    4.0         37.2       21.5          58.9      11.3      9.5
    4.5         40.0       19.7          57.2      11.0      9.4
    5.0         43.1       18.4          57.1      10.7      9.1
    5.5         46.2       17.5          57.7      10.8      8.6
    6.0         48.6       16.9          56.4      10.8      8.2
    6.5         51.8       16.8          59.9      11.0      7.6
    7.0         54.1       16.5          60.9      11.0      7.0
    7.5         56.3       16.3          62.0      11.1      6.3
    8.0         58.0       16.0          63.0      11.1      5.9
    8.5         59.9       15.9          64.1      11.2      5.1
    9.0         61.4       15.7          64.9      11.2      4.6
    9.5         62.6       15.7          65.6      11.3      3.9
   10.0         63.8       15.7          66.4      11.5      3.5
   10.5         65.0       15.7          67.2      11.6      3.3
   11.0         66.4       15.6          68.1      11.7      2.6
   11.5         67.7       15.5          69.2      11.7      2.3
   12.0         68.6       15.3          70.0      11.7      1.9
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO       ERROR

      1      60.5        4.9
      2     151.2        5.1
      3     159.0        5.6
      4      56.8        6.1
      5      44.8        7.4
      6     138.1        8.9
      7      16.5       11.1
      8     107.1       13.4
      9      32.7       16.1
     10     116.8       18.5
     11     119.1       21.0
     12     135.6       23.1
     13     163.9       25.0
     14     213.2       26.9
     15     243.6       28.9
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16     237.3      30.4
17     265.6      32.0
18     316.8      33.8
19     356.1      34.9
20     349.5      36.5
21     371.0      37.4
22     406.8      39.1
23     358.1      39.3
24     293.0      40.7

       HEIGHT   DIRECTION   SPEED   TEMP
        FEET     DEGREES    FT/SEC

         408.       134        6.5  11.3
         430.       203        9.5  11.6
         806.       197        7.5  11.3
        1157.       219       18.6  10.7
        1478.       221       30.2  10.1
        1633.       220       38.5   9.5
        1901.       226       45.5   9.5
        1995.       229       49.0   9.5
        2323.       232       48.8   9.4
        2564.       240       47.0   9.1
        2863.       244       44.5   8.6
        3096.       253       39.6   8.2
        3376.       258       39.0   7.6
        3613.       257       38.9   7.0
        3872.       261       34.8   6.3
        4032.       265       32.1   5.9
        4256.       264       34.3   5.1
        4462.       265       28.6   4.6
        4629.       267       27.2   3.9
        4682.       272       25.7   3.5
        5023.       275       27.0   3.3
        5258.       286       23.1   2.6
        5271.       290       19.7   2.3

       HEIGHT   DIRECTION   SPEED   TEMP
       METERS    DEGREES    M/SEC

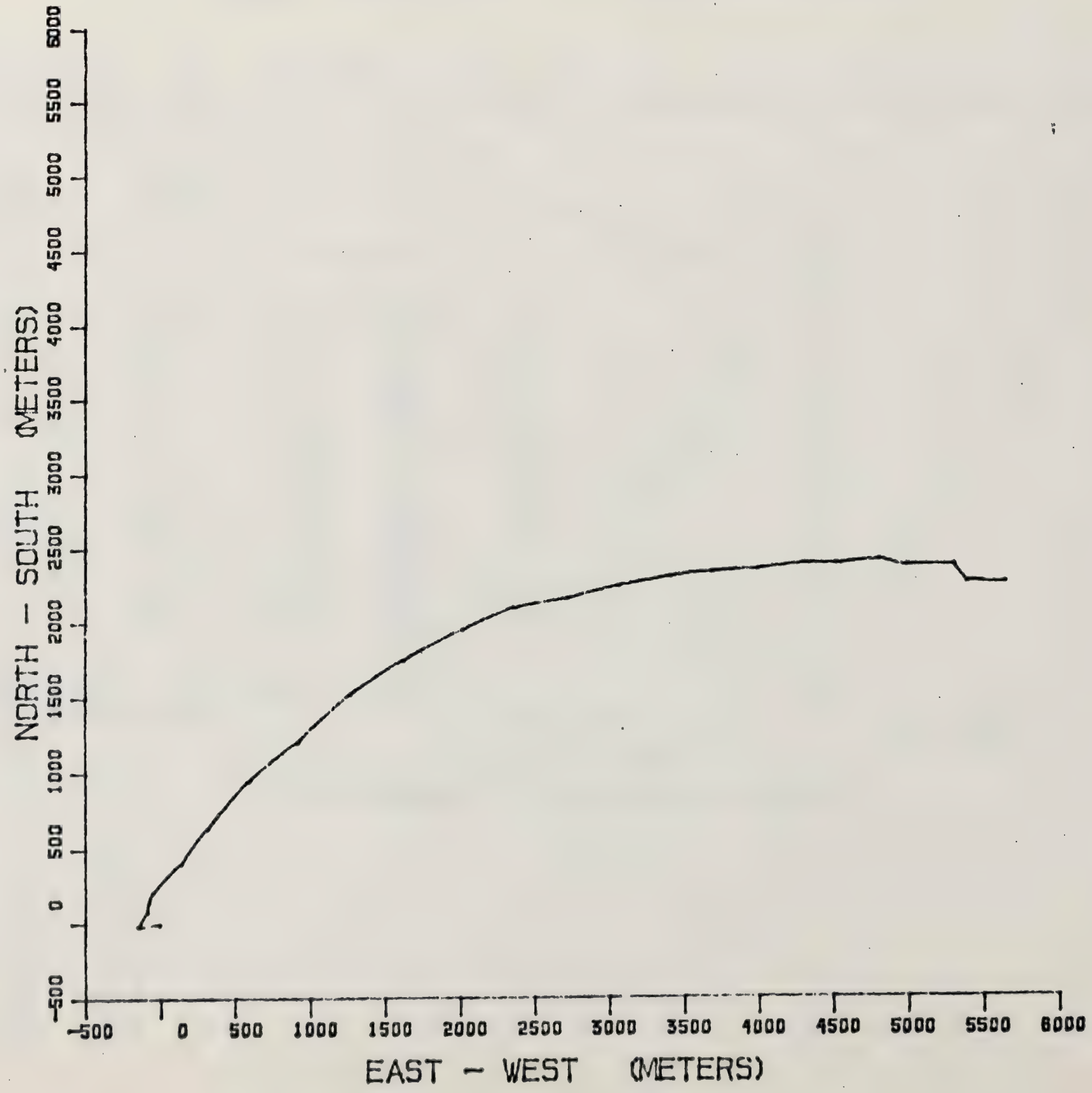
         124.       134        2.0  11.3
         131.       203        2.9  11.6
         246.       197        2.3  11.3
         353.       219        5.7  10.7
         451.       221        9.2  10.1
         498.       220       11.7   9.5
         579.       226       13.9   9.5
         608.       229       14.9   9.5
         708.       232       14.9   9.4
         781.       240       14.3   9.1
         873.       244       13.6   8.6
         944.       253       12.1   8.2
        1030.       258       11.9   7.6
        1101.       257       11.9   7.0
        1180.       261       10.6   6.3
        1229.       265        9.8   5.9
        1297.       264       10.5   5.1
        1360.       265        8.8   4.6
```

1411.	267	8.3	3.9
1468.	272	7.8	3.5
1531.	275	6.4	3.3
1603.	286	7.0	2.6
1606.	290	6.0	2.3

C-B SOUNDING – PLOTTED ON 08/JUN/78

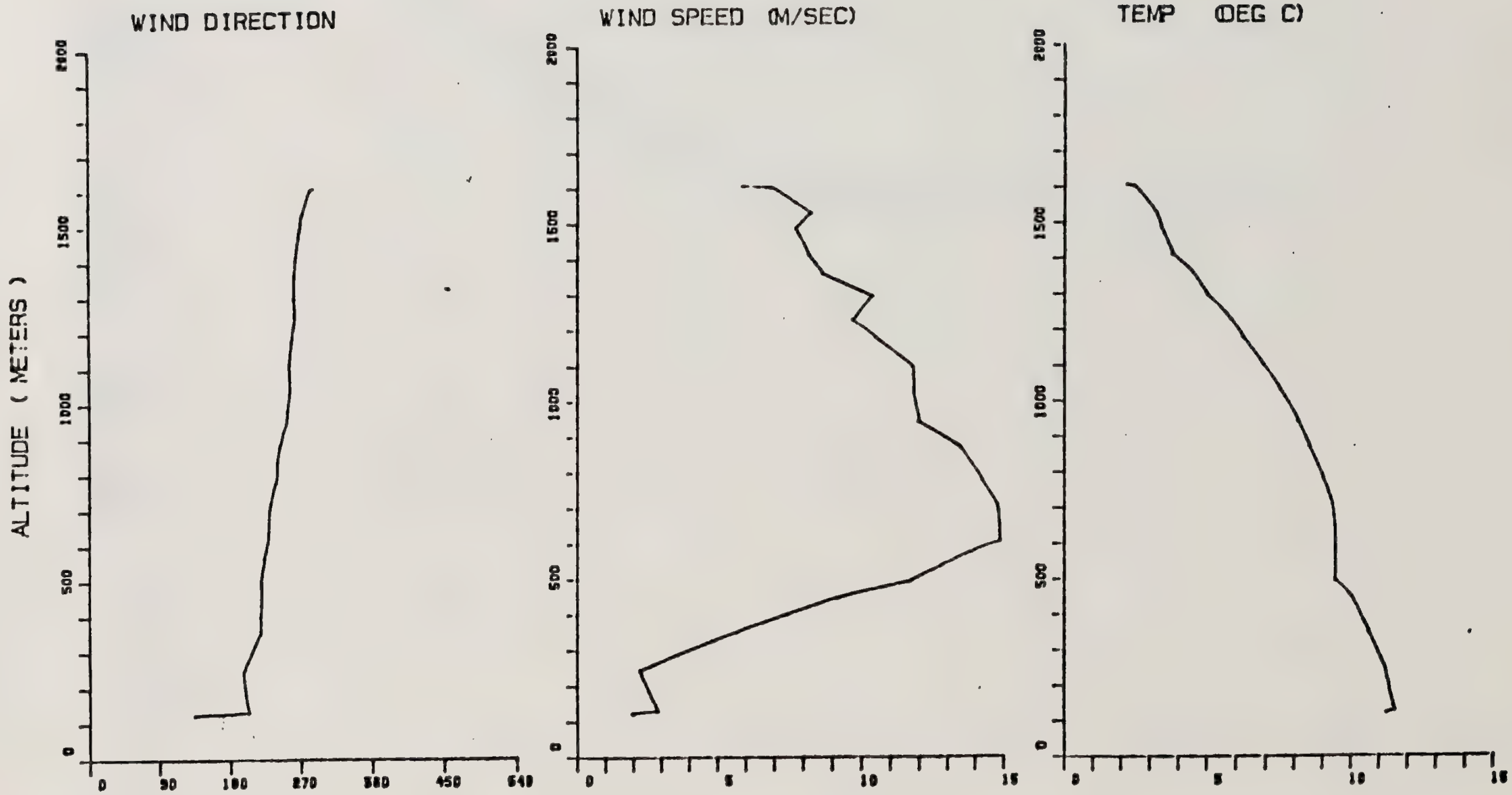
TIME 655 DATE 3/31/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 08/JUN/78

TIME 655 DATE 3/31/78



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C-R PIBAL SOUNDING                      RUN ON 08/JUN/78

SOUNDING DATE  3-31-78

BALLOON RELEASED 1415 CST

BASE LINE ANGLE             258.0
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0
                THEODOLITE #1           THEODOLITE #2

   TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
     .0           .0         .0          78.0        -.0       .0
     .5        348.2       25.3          72.8        3.2     16.5
    1.0        353.2       28.2          66.0        6.5     15.3
    1.5          2.2       33.3          62.8        9.7     13.9
    2.0         10.2       34.0          60.5       11.8     13.0
    2.5         15.2       35.3          59.3       13.8     12.1
    3.0         19.3       35.7          58.4       15.7     11.2
    3.5         22.2       36.3          56.3       16.5      9.8
    4.0         25.0       36.6          55.0       19.2      8.4
    4.5         27.1       37.0          54.0       20.7      6.5
    5.0         29.0       37.0          53.2       21.8      5.1
    5.5         31.7       36.6          53.0       22.4      3.9
    6.0         34.1       36.0          53.2       22.7      3.5
    6.5         36.0       35.1          53.1       22.8      2.3
    7.0         36.9       33.3          52.3       22.9      1.8
    7.5         37.1       31.7          51.4       21.7       .6
    8.0         38.1       30.4          51.4       21.2       .2
    8.5         39.8       28.8          51.4       20.3       .0
    9.0         40.7       27.7          51.3       19.8      -.2


COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1     155.3        5.3
     2      98.1        6.2
     3      48.9        7.2
     4      26.7        8.2
     5      25.6        9.0
     6      70.7       10.0
     7     117.5       11.0
     8      23.3       12.7
     9      42.8       14.0
    10      62.6       15.4
    11      95.1       16.9
    12      98.3       18.2
    13     115.6       19.6
    14      33.3       22.0
    15     178.0       22.9
    16     164.0       24.2
    17     263.9       26.2
    18     302.7       27.9
```

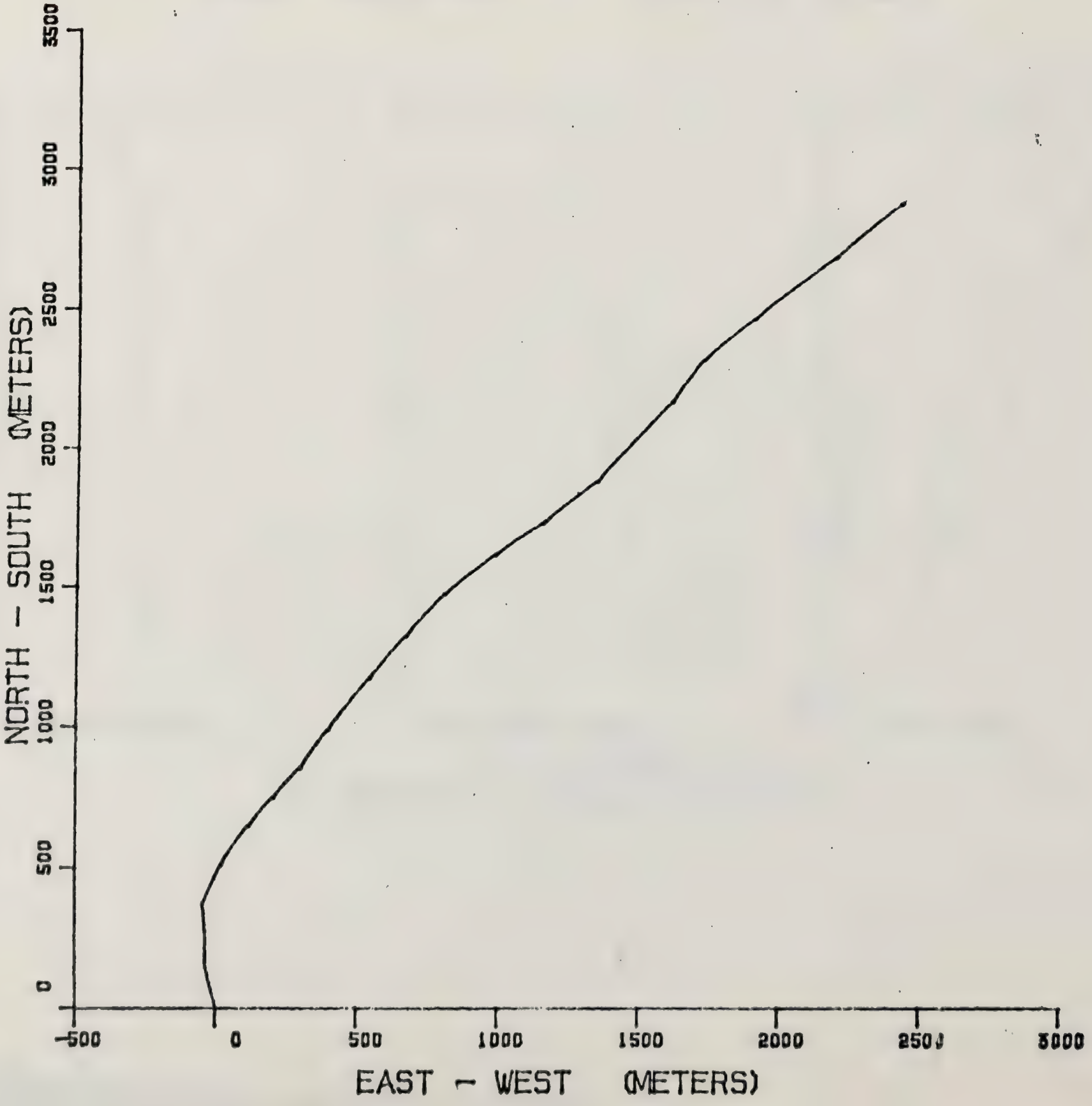
HEIGHT FEET	DIRECTION DEGREES	SPEED FT/SEC	TEMP
281.	174	20.5	16.5
681.	189	19.0	15.3
1112.	210	17.4	13.9
1462.	217	16.4	13.0
1807.	221	15.1	12.1
2158.	218	17.0	11.2
2523.	217	22.2	9.8
3148.	219	23.6	8.4
3650.	221	21.7	6.5
4127.	227	23.5	5.1
4572.	233	23.7	3.9
4922.	234	24.5	3.5
5267.	226	34.5	2.3
5808.	221	31.6	1.8
5783.	224	22.8	.6
5930.	232	32.4	.2
6146.	231	36.1	.0

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
86.	174	6.2	16.5
208.	189	5.8	15.3
339.	210	5.3	13.9
446.	217	5.0	13.0
551.	221	4.6	12.1
658.	218	5.2	11.2
769.	217	6.8	9.8
960.	219	7.2	8.4
1113.	221	6.6	6.5
1258.	227	7.2	5.1
1394.	233	7.2	3.9
1500.	234	7.5	3.5
1611.	226	10.5	2.3
1770.	221	9.6	1.8
1763.	224	6.9	.6
1808.	232	9.9	.2
1873.	231	11.0	.0

C-B SOUNDING – PLOTTED ON 08/JUN/78

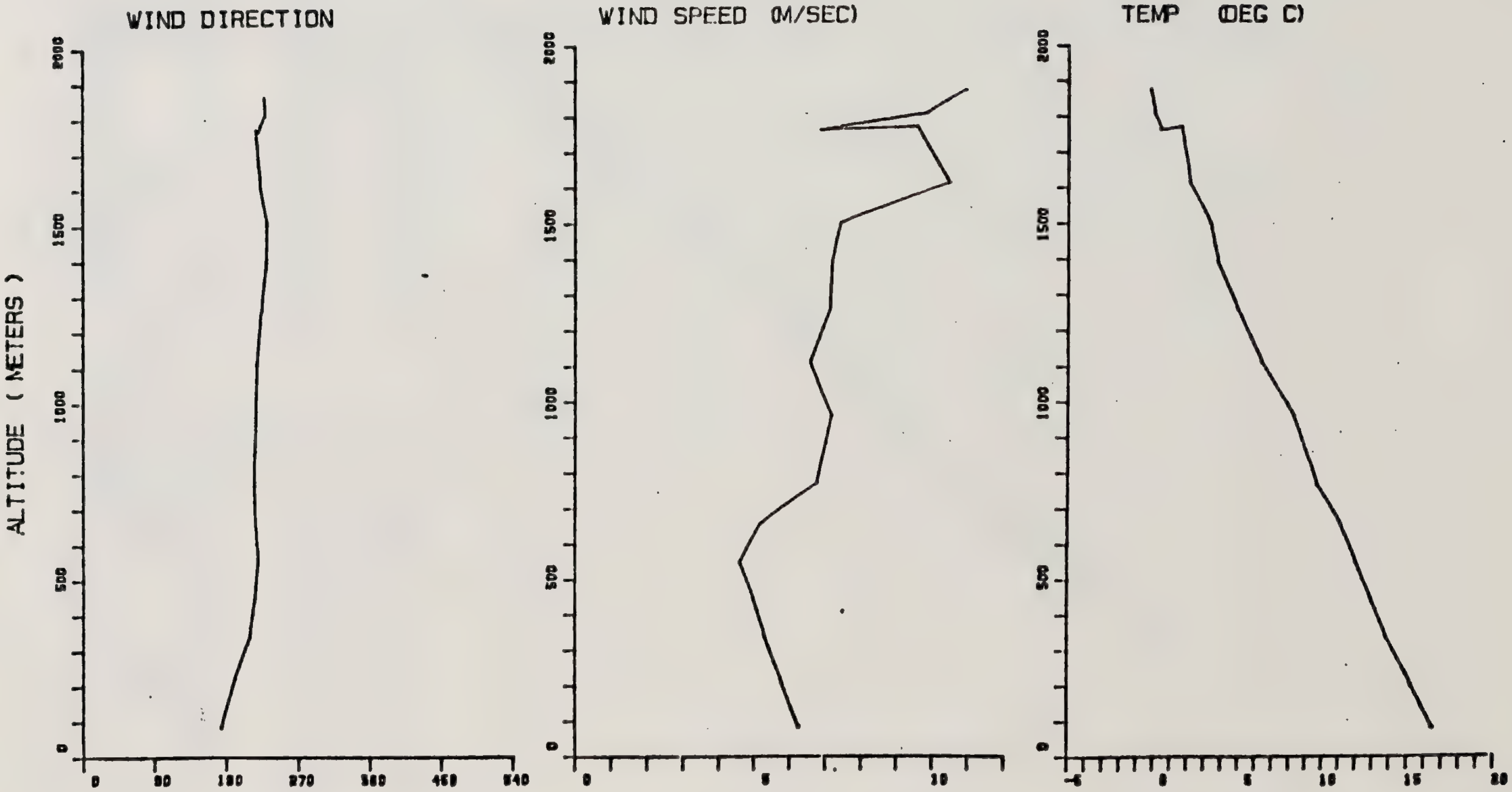
TIME 1415 DATE 3/31/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 08/JUN/78

TIME 1415 DATE 3/31/78



SECTION 3.0

AIR QUALITY

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HYDROGEN SULFIDE

MICROGRAMS/CUBIC METER
                                                   C-B OIL SHALE PROJECT, COLORADO        **********************
                                                                                          *                    *
                                                   SITE   23                              *     FINAL DATA     *
                                                                                          *  AS OF 11/JUN/78   *
                                                   MAR, 1978                              *                    *
                                                                                          **********************
                                                   AEROVIRONMENT INC.


                                       CLOCK HOUR  (LOCAL STANDARD TIME)


DAY     00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23     AVE  PEAK

   1     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
   2     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
   3     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
   4     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
   5     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
   6     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
   7     0     0     0     0     0     0     0     0     0     0     0     0     0  (CA)  (CA)  (CA)  (FO)  (FO)  (FO)  (FO)  (FO)  (FO)  (FO)  (FO)       0     0
   8  (FO)  (FO)  (FO)  (FO)  (FO)  (FO)  (FO)  (FO)  (FO)  (CA)  (CA)     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
   9     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  10     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  11     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  12     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  13     0     0     0     0     0     0     0     0     0  (MT)     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  14     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  15     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  16     0     0     0     0     0     0     0     0     0     0     0  (CA)  (CA)     7     8     8     7     7     7     8     8     8     8     8       4     8
  17     8     8     8     8     8     8     8     8     8     8     0     0     0     0     0     0     0     0     0     0     0     0     0     0       3     8
  18     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  19     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0  (CA)  (CA)     0     0     0     0     1     1       0     1
  20     0     0     0     0     0     0     0     0     0  (CA)  (CA)  (CA)  (CA)  (CA)     0     0  (MT)     0     0     0     0     1     1     1       0     1
  21     0  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)     0     0     0     0     0     0     0     0     0     0     1       0     1
  22     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  23     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  24     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  25     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  26     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  27     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  28     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  29     0     0     0     0     0     0     0     0     0     0     0     0     0  (RF)  (RF)  (RF)     0     0     0     0     0     0     0     0       0     0
  30     0     0     0     0     0     0     0     0     0     0  (CA)     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0
  31     0     0     0     0     0     0  (FO)  (FO)  (CA)  (CA)  (CA)     0     0     0     0     0     0     0     0     0     0     0     0     0       0     0

  AV     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0       0 (   )
  SD     1     1     1     1     1     1     1     1     1     2     0     0     0     1     1     1     1     1     1     1     1     1     1     1       1 (   )

ADOUT     (15 MAY 78)
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SULFUR DIOXIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 09/JUN/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	0	0	0	0	0	0	0	0	0	0	(CA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	(CA)	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	(CA)	(CA)	(CA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	3
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	(MT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
16	3	0	0	0	0	0	0	0	0	(CA)	(CA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
17	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(CA)	(CA)	0	0	0	0	0	0	0	0
20	5	5	0	0	0	0	0	(CA)	0	(CA)	(CA)	(CA)	(CA)	(CA)	0	0	(MT)	0	0	0	0	0	0	0	1	5
21	0	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	18	8	8	0	5	5	10	8	8	13	10	10	13	8	13	13	8	13	7	18
26	10	10	10	8	10	21	18	10	10	16	8	8	5	8	13	13	16	13	26	10	10	21	18	13	13	26
27	8	5	5	5	8	16	13	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	16
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	(RF)	(RF)	(RF)	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	(CA)	13	8	5	8	8	0	0	0	0	0	0	0	0	2	13
31	0	0	0	0	0	0	0	0	(CA)	(CA)	(CA)	8	8	5	3	3	0	0	0	0	0	0	0	0	1	8
AV	1	1	0	0	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	( )
SD	2	2	2	2	2	5	5	3	3	3	2	3	3	2	3	3	3	3	5	2	3	4	3	3	3	( )

ADOUT (15 MAY 78)

TOTAL HYDROCARBONS

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 11/JUN/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
2	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
3	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
4	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
5	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
6	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
7	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
8	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
9	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
10	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
11	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
12	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
13	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
14	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
15	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
16	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	1310	1376	1310	1376	1376	1376	1441	1366	1441
17	1441	1507	1507	1572	1572	1638	1703	1965	2555	2751	786	917	1048	1114	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1577	2751
18	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
19	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	[ ]	[ ]
20	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1048	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(MT)	983	1048	1114	1179	1179	1245	1310	1138	1310
21	1376	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1114	1114	1245	1441	1507	1376	1376	1441	1507	1572	1370	1572
22	1507	1507	1441	1310	1376	1441	1507	1441	1572	1703	1245	1179	1310	1441	1703	1572	1769	1572	1507	1507	1376	1376	1376	1441	1466	1769
23	1376	1441	1441	1376	1310	1310	1310	1572	1572	1114	1376	1834	2227	2162	(CA)	1900	2162	1965	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1615	2227
24	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	2358	1310	(CA)	1507	1834	1310	1310	1441	1310	1507	1310	1507	(IM)	1519	2358
25	(IM)	(IM)	(IM)	1376	1376	1376	1441	(IM)	(IM)	(IM)	2686	2686	3079	3079	3013	2948	2686	2424	(IM)	(IM)	1769	1638	1638	1507	2170	3079
26	1572	1572	1376	(IM)	(IM)	(IM)	(IM)	(IM)	2162	2489	2424	2424	2620	2489	2751	2620	2424	2031	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	2227	2751
27	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	652	1310	1310	1310	1048	1048	1048	1245	1179	1048	1310	1155	1310
28	1245	1310	1245	1441	1441	1310	1376	1441	1572	(IM)	(IM)	1507	1376	1310	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1381	1572
29	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1834	1769	1769	1769	1769	1834	1791	1834
30	1900	1965	1900	2096	2096	2031	2162	2489	3210	3210	(CA)	1245	1310	1310	1245	1310	1310	1310	1376	1310	1310	1376	1507	1572	1763	3210
31	1441	1507	1769	1638	1769	1507	1572	1769	2293	2227	2162	(CA)	1441	1900	1834	917	1048	1114	1245	1572	1376	1310	1310	1310	1567	2293
AV	1482	1544	1526	1544	1563	1516	1582	1675	2134	2249	1780	1769	1747	1740	1810	1725	1696	1501	1376	1368	1428	1395	1428	1477	1579	[ ]
SD	182	188	212	250	261	236	265	426	574	686	685	616	672	683	661	644	558	436	231	211	189	176	194	161	313	[ ]

ADOUT (15 MAY 78)

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METHANE

MICROGRAMS/CUBIC METER
                                                        C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                             *                   *
                                                        SITE   23                            *     FINAL DATA    *
                                                                                             *  AS OF 11/JUN/78  *
                                                        MAR, 1978                            *                   *
                                                                                             *********************
                                                        AEROVIRONMENT INC.


                                  CLOCK HOUR  (LOCAL STANDARD TIME)

 DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23    AVE PEAK

   1  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
   2  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
   3  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
   4  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
   5  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
   6  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
   7  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
   8  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
   9  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
  10  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
  11  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
  12  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
  13  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
  14  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
  15  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
  16  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)   983   917   917   917   983   917   983    945  963
  17   917   917   917   983   917   983   917   983   983   983   786   655   655   655  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)    875  983
  18  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
  19  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  ) (  )
  20  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   786  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (MT)   852   852   852   852   852   852   852    844  852
  21   852  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   852   786   786   786   786   786   786   786   786   786   786    797  852
  22   786   786   786   786   786   786   786   786   786   786   786   852   852   786   852   786   786   786   786   786   786   786   786   786    794  852
  23   786   786   786   852   852   786   852   917   852   852   786   786   786   786   852   852   852   852   852   852   852   852   852   852    833  917
  24   917   917   917   917   917   917   917   917   917   917   917   917   917  (CA)   917   917   917   917  1048   983  1048  1048   983   917    940 1048
  25   917   917   917   983   917   917   917   917   917   917   917   917   917   917   852   852   852   852   852   852   852   852   852   786    890  983
  26   852   786   786   786   786   786   786   786   786   786   786   786   786   786   786   786   786   786   786   786   721   786   721   721    781  852
  27   721   721   721   721   721   721   721   721   721   852   852   852   852   852   852   852   852   786   786   852   852   852   852   852    797  852
  28   852   852   852   852   786   786   852   852   786   917   917   917   917   852   852   852   852   786   852   852   852   852   852   786    849  917
  29   786   852   852   852   852   852   852   852   917   917   852   852   852  (RF)  (RF)  (RF)   852   852   852   852   852   852   852   852    855  917
  30   852   852   852   852   917   917   917   852   852   852  (CA)   852   852   852   852   852   852   852   852   852   852   852   852   852    860  917
  31   852   852   852   852   852   786   852   852   917   917   917  (CA)   983   917   917   917   917   917   852   917   852   852   786   852    877  983

  AV   841   840   840   858   846   840   852   852   858   881   852   839   852   825   852   845   846   847   852   857   852   862   842   837    853 (  )
  SD    59    61    61    76    65    78    62    71    76    58    59    76    84    73    41    46    44    60    68    54    73    72    62    64     49 (  )

 AOOUT    (15 MAY 78)
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HYDROCARBONS (CORRECTED FOR CH4)

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*   AS OF 17/JUL/78  *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
2	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
3	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
4	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
5	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
6	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
7	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
8	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
9	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
10	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
11	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
12	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
13	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
14	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
15	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
16	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	328	459	393	459	393	459	459	421	459
17	524	590	590	590	655	655	786	983	1572	1769	0	262	393	459	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	702	1769
18	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
19	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
20	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	262	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[MT]	131	197	262	328	328	393	459	295	459
21	524	[RF]	[RF]	[RF]	[RF]	[HF]	[RF]	[HF]	[RF]	[HF]	[RF]	[RF]	[RF]	[IM]	328	328	459	655	721	590	590	655	721	786	578	786
22	721	721	655	524	590	655	721	655	786	917	459	328	459	655	852	786	983	786	721	721	590	590	590	655	672	983
23	590	655	655	524	459	524	459	655	721	262	590	1048	1441	1376	[CA]	1048	1310	1114	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	790	1441
24	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	1441	393	[CA]	590	917	393	393	393	328	459	262	524	[IM]	554	1441
25	[IM]	[IM]	[IM]	393	459	459	524	[IM]	[IM]	[IM]	1769	1769	2162	2162	2162	2096	1834	1572	[IM]	[IM]	917	786	786	721	1286	2162
26	721	786	590	[IM]	[IM]	[IM]	[IM]	[IM]	1376	1703	1638	1638	1834	1703	1965	1834	1638	1245	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	1436	1965
27	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	0	459	459	459	262	262	197	393	328	197	459	316	459
28	393	459	393	590	655	524	524	590	786	[IM]	[IM]	590	459	459	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	535	786
29	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	983	917	917	917	917	983	939	983
30	1048	1114	1048	1245	1179	1114	1245	1638	2358	2358	[CA]	393	459	459	393	459	459	459	524	459	459	524	655	721	903	2358
31	590	655	917	786	917	721	721	917	1376	1310	1245	[CA]	459	983	917	0	131	197	393	655	524	459	524	459	689	1376
AV.	639	711	693	665	702	665	711	814	1282	1386	950	934	895	917	958	881	852	649	517	502	564	524	577	634	723	[ ]
SD	185	190	204	261	242	203	246	401	543	668	646	580	671	660	669	655	578	454	236	223	192	203	196	177	320	[ ]

AQOUT (15 MAY 78)

CARBON MONOXIDE

MILLIGRAMS PER CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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*                   *
*    FINAL DATA     *
*  AS OF 11/JUN/78  *
*                   *
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CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
2	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
3	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
4	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
5	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
6	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
7	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
8	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
9	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
10	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
11	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
12	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
13	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
14	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
15	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
16	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
17	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	.2	.2	.2	.2	.1	.2	.2	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	.2	.2
18	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
19	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
20	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	.2	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[MT]	.2	.2	.1	.2	.2	.2	.2	.2	.2
21	.1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2
22	.2	.1	.1	.2	.1	.1	.1	.1	.1	.1	.2	.2	.2	.1	.1	.2	.2	.2	.1	.2	.2	.2	.2	.1	.1	.2
23	.2	.1	.2	.2	.2	.2	.2	.2	.1	.2	.2	.2	.2	.3	.2	.2	.3	.2	.2	.2	.2	.2	.2	.2	.2	.3
24	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	[CA]	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
25	.2	.2	.3	.3	.2	.2	.1	.2	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3
26	.1	.2	.2	.2	.2	.2	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.1	.2	.1	.2	.2	.2	.2	.1	.2	.2
27	.2	.2	.1	.2	.2	.2	.2	.1	.1	.2	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.2	.2	.3	.2	.2	.3
28	.2	.2	.3	.2	.2	.2	.2	.2	.2	.2	.5	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.5
29	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.5	.2	[RF]	[RF]	[RF]	.3	.3	.3	.2	.3	.3	.3	.3	.3	.5
30	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	[CA]	.5	.5	.5	.3	.3	.3	.2	.3	.3	.3	.2	.3	.2	.3	.5
31	.3	.3	.3	.3	.5	.3	.3	.3	.3	.2	.3	[CA]	.2	.3	.3	.2	.2	.2	.3	.2	.3	.2	.3	.2	.3	.5
AV	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.2	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	[ ]
SD	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	[ ]

ADOUT [15 MAY 78]

NITRIC OXIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 11/JUN/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1	1	1	[MT]	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	2	2	2	2	2	2	2	2	2	2	2	2	[CA]	[CA]	2	2	2	2	2	2	2	2	4	4	2	4
17	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[CA]	[CA]	0	0	0	0	0	1	1	0	1
20	0	0	0	0	0	0	0	0	0	[CA]	[CA]	[CA]	[CA]	[CA]	0	0	[MT]	0	0	0	0	1	1	1	0	1
21	0	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[HF]	[RF]	[RF]	[RF]	0	0	0	0	0	0	0	0	0	0	1	0	1
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	1	0	1
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	0	0
28	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[ ]	[ ]
29	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[RF]	[RF]	[RF]	0	0	0	0	1	1	0	0	0	1
30	0	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	2	2	2	2	2	0	4	2	1	4
31	0	0	0	0	0	0	4	4	2	1	1	[CA]	0	0	0	0	0	0	0	0	0	0	0	0	1	4
AV	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	[ ]
SD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	[ ]

AQOUT [15 MAY 78]

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OXIDES OF NITROGEN

MICROGRAMS/CUBIC METER
                                                   C-B OIL SHALE PROJECT, COLORADO       **********************
                                                                                         *                    *
                                                   SITE   23                             *     FINAL DATA     *
                                                                                         *  AS OF 11/JUN/78   *
                                                   MAR, 1978                             *                    *
                                                                                         **********************
                                                   AEROVIRONMENT INC.


                                     CLOCK HOUR  [LOCAL STANDARD TIME]


DAY    00    01    02    03    04   05.    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23   AVE  PEAK

  1  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [  ]  [  ]
  2  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [  ]  [  ]
  3  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [  ]  [  ]
  4  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]     6     6     6     6  [IM]  [IM]  [IM]     6     6
  5  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [  ]  [  ]
  6  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]     4     8     6     4     8     8     6     6     6     6     6     8
  7     6     6     4     4  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]     5     6
  8  [IM]  [IM]  [IM]     2     2  [IM]  [IM]  [IM]     9     4     0     0     0     0     0     0     0     0     0     0     0     0     0     0     1     9
  9     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     2     6     4     0     0     0     0     0     0     0     6
 10     0     0     0     0     0     2     2     0     8     4     0     0     0     0     1     1     1     1     1     1     1     1     1     1     1     8
 11     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1
 12     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1
 13     1     1     1     5     1     1     1     1     5  [MT]     1     8    12     7     1    10     1     1     1     3     1    17    23     1     5    23
 14     1     1     1     1     1     1     8    16    25     7     9     9     7     1     1     5     1     1     1     1     1     1     2     2     4    25
 15     2     2     2     2     2     2     5     2     2     5     3     2     2     2     2     2     2     2     7     2     2     2     2     2     2     7
 16     2     2     2     2     2     2     2     5     2     2     2     2  [CA]  [CA]     2     2     2     2     2     2     2     2     2     2     2     5
 17     2     2     2     2     2     2     2     2     2     2     2     0     0     0     0     0     0     0     0     0     0     0     2     0     1     2
 18     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 19     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0  [CA]  [CA]     0     0     0     0     0     0     0     0
 20     0     0     0     0     0     0     0     0     0  [CA]  [CA]  [CA]  [CA]  [CA]     0     2  [MT]     0     0     0     0     0     0     2     0     2
 21     4  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     0     0     0     0     0     0     0     0     0     0     0     0     4
 22     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 23     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     6     0     0     6
 24     0     0     0     0     0     0     0     0     0     0     0     0     0  [CA]     4     0     0     0     0     0     0     0     0     0     0     4
 25     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 26     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 27     0     0     0     0     0     0     0     0     0  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]     0     0
 28  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [IM]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [  ]  [  ]
 29  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [MT]  [RF]  [RF]  [RF]     0     0     0     0     0     0     0     0     0     0
 30     0     0     0     0     0     0     0     0     0     0  [CA]     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 31     0     0     0     0     0     0     0     0     0     0     0  [CA]     0     0     0     0     0     0     0     0     0     0     0     0     0     0

 AV     1     1     1     1     1     1     1     1     3     1     1     1     1     1     1     2     1     1     1     1     1     1     2     1     1  [  ]
 SD     2     1     1     1     1     1     2     4     6     2     2     3     3     2     1     3     2     2     2     2     2     4     5     1     2  [  ]

AODUT    [15 MAY 78]
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NITROGEN DIOXIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 11/JUN/78   *
*                    *
**********************
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CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	.04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
2	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
3	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
4	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	6	6	6	6	[IM]	[IM]	[IM]	6	6
5	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
6	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	4	8	6	4	8	8	6	6	6	6	6	8
7	6	6	4	4	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	5	6
8	[IM]	[IM]	[IM]	2	2	[IM]	[IM]	[IM]	9	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	3	0	0	0	0	0	0	0	5
10	0	0	0	0	0	1	1	0	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	3	0	0	0	0	2	[MT]	0	6	10	4	0	8	0	0	0	1	0	15	20	0	3	20
14	0	0	0	0	0	0	6	13	22	4	6	6	4	0	0	2	0	0	0	0	0	0	0	0	3	22
15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
16	0	0	0	0	0	0	0	2	0	0	0	0	[CA]	[CA]	0	0	0	0	0	0	0	0	0	0	0	2
17	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[IM]	[CA]	[IM]	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	[CA]	[CA]	[CA]	[CA]	[CA]	0	2	[MT]	0	0	0	0	0	0	0	0	2
21	4	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	0	0	0	0	0	0	0	0	0	0	0	0	4
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6
24	0	0	0	0	0	0	0	0	0	0	0	0	0	[CA]	4	0	0	0	0	0	0	0	0	0	0	4
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	[IM]	53	36	[IM]	[CA]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	8	53
28	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[ ]	[ ]
29	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[RF]	[RF]	[RF]	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AV	0	0	0	0	0	0	0	1	2	1	3	3	1	0	0	1	1	1	1	1	0	1	1	0	1	[ ]
SD	1	1	1	1	0	0	1	3	5	1	12	8	2	1	1	2	2	2	2	2	2	3	4	1	2	[ ]

ADOUT [15 MAY 78]

OZONE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 09/JUN/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	102	102	98	96	90	86	86	84	82	80	(CA)	80	82	84	84	102	114	110	104	108	110	108	106	104	96	114
2	100	94	86	90	96	94	88	92	76	65	74	82	92	98	104	108	118	125	125	123	122	122	120	118	100	125
3	114	116	114	108	106	108	108	110	108	(CA)	114	122	123	125	125	125	123	123	123	118	112	110	104	104	115	125
4	106	104	98	98	98	104	104	106	106	112	112	108	118	118	118	118	118	114	114	110	108	108	108	106	109	118
5	106	102	100	100	98	96	96	96	98	98	108	120	123	123	123	123	123	118	114	108	112	118	114	114	110	123
6	108	108	104	98	98	84	76	84	106	98	98	104	110	114	92	88	88	94	82	69	80	80	78	76	92	114
7	78	74	69	69	67	69	69	69	76	88	92	90	96	96	96	96	96	88	78	76	76	78	80	71	81	96
8	88	90	94	96	96	94	92	84	82	78	137	141	143	143	143	143	141	139	135	135	135	133	131	133	118	143
9	133	127	125	123	123	123	123	120	125	135	137	135	137	137	137	123	125	123	118	118	114	110	114	112	125	137
10	108	108	104	108	98	96	100	98	88	104	106	112	114	131	135	123	122	118	108	108	102	96	94	88	107	135
11	88	96	86	76	78	73	65	73	78	100	116	123	123	122	122	122	122	120	114	112	112	108	110	114	102	123
12	110	108	106	98	104	106	98	102	108	116	116	120	123	120	122	122	122	123	123	116	114	108	106	98	112	123
13	102	98	98	106	108	106	98	98	108	(MT)	114	114	116	114	114	110	110	114	112	104	108	120	104	108	108	120
14	108	116	116	114	108	106	90	86	84	110	116	(CA)	(CA)	(CA)	114	116	118	110	112	102	114	112	102	106	108	118
15	108	106	102	104	104	106	104	104	100	110	112	116	116	120	123	125	120	118	104	110	108	108	114	114	111	125
16	110	110	104	104	106	106	106	104	106	112	114	(CA)	102	102	100	100	100	100	96	94	94	92	92	94	102	114
17	94	94	94	84	94	94	94	94	96	100	104	104	104	100	96	94	94	90	84	82	82	82	78	78	92	104
18	80	82	82	84	84	82	80	78	84	86	86	88	88	88	90	94	94	94	94	92	88	90	88	86	87	94
19	84	84	82	84	82	84	84	84	82	84	84	86	84	84	82	78	74	73	69	78	76	69	67	61	79	86
20	65	67	67	69	71	74	74	73	82	(CA)	(CA)	(CA)	(CA)	(CA)	86	84	(MT)	82	80	78	78	80	73	74	75	86
21	80	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	94	94	96	98	98	94	86	90	88	86	86	91	98
22	84	84	86	82	78	84	76	76	76	78	86	78	90	104	108	122	118	102	102	102	94	90	90	88	91	122
23	86	78	88	82	84	80	78	78	74	76	78	82	90	88	86	84	86	86	76	71	69	74	65	65	79	90
24	69	63	69	73	67	61	57	61	57	84	86	94	94	90	92	86	86	86	78	69	61	61	65	61	74	94
25	65	73	73	69	65	71	67	61	69	78	94	94	94	94	94	94	94	86	86	69	74	74	67	65	78	94
26	73	71	67	74	69	71	69	63	74	82	88	94	94	94	94	94	92	92	84	86	82	82	80	80	81	94
27	84	86	84	84	82	86	84	80	82	82	86	90	86	84	86	86	86	82	71	67	69	69	69	69	81	90
28	78	69	65	69	59	55	59	57	63	69	78	82	92	92	94	94	94	96	92	88	88	84	82	80	78	96
29	78	80	84	80	84	82	78	65	74	84	94	104	104	(RF)	(RF)	(RF)	98	98	90	82	84	82	82	94	86	104
30	94	92	86	86	84	80	78	78	104	106	(CA)	110	108	108	104	104	104	102	90	86	80	86	78	82	93	110
31	78	82	86	78	76	74	65	74	80	78	78	(CA)	74	73	69	71	74	69	61	67	65	59	65	59	72	86
AV	92	92	91	90	89	88	85	84	88	92	100	103	104	105	104	104	105	102	97	94	94	93	91	90	95	( )
SD	16	16	15	15	15	16	16	16	16	17	17	17	17	18	18	17	17	17	19	19	19	19	18	19	15	( )

AQOUT (15 MAY 78)

PARTICULATES (24 HR. AVG)

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

MAR, 1978

AEROVIRONMENT INC.

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*********************
*                   *
*    FINAL DATA     *
*  AS OF 21/AUG/78  *
*                   *
*********************
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SITE

DAY	23	20	42	56	PEAK
1	[ ]	[ ]	[ ]	[ ]	[ ]
2	[ ]	[ ]	[ ]	[ ]	[ ]
3	.5	.5	[PF]	[IM]	.5
4	[ ]	[ ]	[ ]	[ ]	[ ]
5	[ ]	[ ]	[ ]	[ ]	[ ]
6	.2	.0	[PF]	.1	.2
7	[ ]	[ ]	[ ]	[ ]	[ ]
8	[ ]	[ ]	[ ]	[ ]	[ ]
9	2.5	4.2	[PF]	3.9	4.2
10	[ ]	[ ]	[ ]	[ ]	[ ]
11	[ ]	[ ]	[ ]	[ ]	[ ]
12	.7	.0	[PF]	.6	.7
13	[ ]	[ ]	[ ]	[ ]	[ ]
14	[ ]	[ ]	[ ]	[ ]	[ ]
15	3.5	.0	[PF]	1.0	3.5
16	[ ]	[ ]	[ ]	[ ]	[ ]
17	[ ]	[ ]	[ ]	[ ]	[ ]
18	1.7	1.5	[PF]	.0	1.7
19	[ ]	[ ]	[ ]	[ ]	[ ]
20	[ ]	[ ]	[ ]	[ ]	[ ]
21	5.5	2.6	[PF]	1.1	5.5
22	[ ]	[ ]	[ ]	[ ]	[ ]
23	[ ]	[ ]	[ ]	[ ]	[ ]
24	.1	.0	[PF]	[IM]	.1
25	[ ]	[ ]	[ ]	[ ]	[ ]
26	[ ]	[ ]	[ ]	[ ]	[ ]
27	5.0	.0	[PF]	1.4	5.0
28	[ ]	[ ]	[ ]	[ ]	[ ]
29	[ ]	[ ]	.0	[ ]	.0
30	1.3	.0	[ ]	9.6	9.6
31	[ ]	[ ]	[ ]	[ ]	[ ]
AV	2.1	.9	.0	2.2	[ ]
GM	1.1	1.2	1.0	1.2	[ ]
PK	5.5	4.2	.0	9.6	[ ]

AQOUT. (15 MAY 78)

Final Submission

AIR QUALITY DATA

PROTOTYPE OIL SHALE LEASE TRACT C-b

Volume II

March 1978 Data

Submitted June 12, 1978

By

AeroVironment Inc.
145 Vista Avenue
Pasadena, California 91107

II B-803

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PREFACE

This volume is the final submission acquired during the air quality/meteorology portions of the monitoring program for oil shale tract C-b. The period covered runs from 1 March through 31 March 1978.

This report is divided into two volumes. Volume I contains all of the basic data (hourly averages). Volume II contains all of the computer analysis reports.

SECTION 1.0

GENERAL

1.0 GENERAL

1.1 Introduction

AeroVironment Inc. is performing an air quality and meteorological measurement program on the C-b shale oil tract for C-b Shale Oil Venture. Various parameters of air quality and meteorological data are collected at a network of sites. A listing of data collected during this month is contained in Section 1.3 of Volume I.

1.2 Description of Reports

1.2.1 Downtime Hours Report

This report calculates the numbers of hours of downtime by component and by site for each day. Downtime hours are:

MT (Maintenance)
FO (Flame Out)
IM (Instrument Malfunction)
PF (Power Failure)
RF (Recording Failure)
SE (Special Experiment)

Uptime hours are:

Numerical data values
CA (Calibration)
LI (Local Interference)
OS (Off Scale)
IN (Interference)
VA (Variable)
NV (Not Visible)

See section 1.3.1 for additional description of the letter codes. Hours before an instrument began operation are ignored. Percentage efficiency is the number of hours of uptime divided by total hours of data expected.

1.2.2 Stability Class from ΔT Report

Hourly values of stability class have been defined by using the Pasquill-Gifford stability classes. (Classes A – G) with Class A being the most unstable and Class G the most stable. They are determined from ΔT and corrected for wind speed according to the following formulas:

Class	ΔT (°C/100m)
A	< -1.9
B	-1.9 to -1.7
C	-1.7 to -1.5
D	-1.5 to -0.5
E	-0.5 to 1.5
F	1.5 to 4.0
G	> 4.0

Wind Speed Adjustment

Stability From ΔT	Wind Speed (WS) m/s	"Adjusted Stability"
A	$WS<2.00$	A
	$2.00 \le WS<5.00$	B
	$5.00 \le WS \le 6.00$	C
	$WS>6.00$	D
B	$WS<5.00$	B
	$5.00 \le WS \le 6.00$	C
	$WS>6.00$	D
C	$WS \le 6.00$	C
	$WS \ge 6.00$	D
D	ALL SPEEDS	D
E	$WS \le 5.00$	E
	$WS \ge 5.00$	D

Stability From ΔT	Wind Speed (WS) m/s	"Adjusted Stability"
F	WS<3.00	F
	3.00≤WS≤5.00	E
	WS>5.00	D

Letter codes are used when the stability class cannot be determined (as when there is no ΔT data). If the wind speed data does not exist, the stability class will still be determined, but it will not be corrected for wind speed. These hours can be determined by looking for the malfunction codes in the next report, "Wind Speed and Direction by Stability Class".

1.2.3 Wind Speed and Direction by Stability Class Report

The hourly wind speed and direction (unit vector averaged) is determined for each hour of stability class data. A separate report is produced for each stability class, so wind speed and direction will only be printed in the hours where that particular stability class exists. If wind speed data does not exist, a malfunction code (see Section 1.3.1) will be printed in its place. The stability class will still be determined on the stability class report, however it will not be corrected for wind speed. If wind direction data does not exist, malfunction codes are printed in their place. Since a separate report is prepared for each stability class, blanks between brackets indicate that the hour in question is not the stability class of that report.

1.2.4 Five Maximum Independent Sliding Averages Report

The five highest sliding averages in a month are determined for each of the various air quality parameters for the periods for which there is a standard:

Component	Averaging Time
Ozone	1 hour
Carbon Monoxide	1 hour, 8 hours
Sulfur Dioxide	3 hours, 24 hours
Particulates	24 hours
Hydrocarbon (corrected for methane)	3 hours (6-9 am only)

The average is a "sliding average" for all averaging periods greater than 1 hour. Thus the first 8 hour average checked would be hours 00 through 07, the second one checked would be 01 through 08, and so forth. After the highest average has been determined, none of those values (8 in the case of an 8 hour average) would be used to determine the second highest average. Thus, a single high hourly average will only effect a single independent sliding average, no matter what the averaging period is.

The minimum sample size for determining these averages is:

Time Interval	Minimum number of observations
3-hour running average	3 consecutive hourly observations
8-hour running average	6 hourly observations
24-hour	18 hourly observations
Monthly	21 daily averages
Quarterly	3 consecutive monthly averages
Yearly	9 monthly averages with at least two monthly averages per quarter.

(From the EPA Quality Assurance Handbook).

1.2.5 Monthly and Daily Averages

A separate report was created to produce daily and monthly averages of all parameters. Unlike the averages printed on the hourly tables (in Volume I), the averages in this report must have 50% of the values except for temperature and relative humidity which require 75% because of possible diurnal bias.

1.2.6 Monthly and Daily Vectorial Wind Averages Report

This report calculates true vectorial wind averages for both wind speed and direction. The hourly tables in Volume I use a standard mean for wind speed and a unit vector average (vectorial average where wind speed is set equal to 1) for wind direction.

1.3 Data Description

1.3.1 Description of Data Symbols

Symbols used on the data sheets are:

CA	Calibration
MT	Maintenance (changing paper, tape, filters)
FO	Flame out (on the gas chromatographs)
IM	Instrument malfunction
PF	Power failure (generator failure, power outages)
RF	Recording system failure (chart jams, runs out, tape cassette fails, on-site computer goes down)
LI	Local interference (Car nearby, contamination by generator)
OS	Off scale (at top of chart data value greater than range of instrument)
SE	Special experiment (instrument off-line for bag sample analysis or removed for special measurements in area)
VA	Variable wind direction
IN	Interference (CO_2 interference on sulfur data, SO_2 interference in oxidant readings)
NV	Not visible (data not visible within range of instrument/recorder; data presumed monitored)

See the attached example sheets.

1.3.2 Data Acceptance Algorithm

The EA chart recorder logs data once every 2-1/2 minutes giving about 24 values per hour. Strip chart data is considered to represent the hour if more than 30 minutes of the record is valid.

Data collected in the first 15 minutes after calibration is generally discarded. Data is considered erroneous if any of the status indication or the station log suggests instrument malfunctioning. In addition, air quality data collected in the first 15 minutes after a brief power outage (less than

10 minutes), in the first hour after a medium duration outage (up to one hour), or in the first four hours after longer outages, will be discarded as unreliable. Any anomalous data reflecting signal spikes or dropouts with a response rate faster than ascribable to atmospheric phenomena (e.g., a tripling of NO_x levels from one scan to the next, followed by a return to the old level on the succeeding scan) will be deleted as an artifice caused by the system.

As an additional check, the calibrated data is also screened manually. First, data is scanned to detect extreme values. When a spurious value is located, it will be checked for its validity. In all cases when invalidated data is deleted, a record of these deletions is maintained. Only the validated data will be reported.

1.3.3 Data Precision and Lower Detection Limit

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
		Air Quality		
SO_2	Meloy SA185-2A	10 $\mu g/m^3$	15 $\mu g/m^3$	15 $\mu g/m^3$
H_2S	Meloy SA185-2	6 $\mu g/m^3$	6$\mu g/m^3$	6 $\mu g/m^3$
NO	Monitor Labs 8440E	2 $\mu g/m^3$	5 $\mu g/m^3$	5 $\mu g/m^3$
NO_x	Monitor Labs 8400E	4 $\mu g/m^3$	5 $\mu g/m^3$	5 $\mu g/m^3$
NO_2	NO_x - NO	4 $\mu g/m^3$	6 $\mu g/m^3$	6 $\mu g/m^3$
THC	Bendix 8200	70 $\mu g/m^3$	70 $\mu g/m^3$	70 $\mu g/m^3$
CH_4	Bendix 8200	70 $\mu g/m^3$	70 $\mu g/m^3$	70 $\mu g/m^3$
NMHC	THC - CH_4	70 $\mu g/m^3$	90 $\mu g/m^3$	90 $\mu g/m^3$
CO	Bendix 8200	0.1 mg/m^3	0.1 mg/m^3	0.1 mg/m^3
O_3	Meloy OA 350-2	2 $\mu g/m^3$	20 $\mu g/m^3$	20 $\mu g/m^3$
TSP	GMWC-2000H	0.5 $\mu g/m^3$	6% or 1 $\mu g/m^3$*	1 $\mu g/m^3$
		Meteorology		
Wind Speed	MRI 1074-2 (Site 023, 10m, 30m, 60m)	0.5 m/s	1% or 1 m/s*	1 m/s
	MRI 1071 (Site 042, 056)	0.5 m/s	2% or 1 m/s*	1 m/s
	Weathermeasure W1034 (Site 020)	0.5 m/s	1% or 1 m/s*	1 m/s
Wind Direction	MRI 1074-2 (Site 023, 10m,30m,60m)	N/A	1%	N/A
	MRI 1071 (Site 042, 056)	N/A	5°	N/A

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
Meteorology (Cont'd)				
Wind Direction	Weathermeasure W1034 (Site 020)	N/A	1°	N/A
Temperature	MRI 840 (site 023)	-50°C	1°C	-50°C
	MRI 1071 (Site 042,056)	-35°C	1°C	-35°C
Delta Temperature	MRI 840	N/A	0.2°C	N/A
Relative Humidity	Weathermeasure H324-S	3%	1% (20-80%) 3% (at extremes)	3%
Barometric Pressure	Weathermeasure B 242	462 mm Hg	1 mm Hg	462 mm Hg
Solar Radiation	Eppley Spectral Pyranometer	0.05 $cal/cm^2/min$	0.05 $cal/cm^2/min$	0.05 $cal/cm^2/min$
Mixing Height Inversion Height Stability Type	AV 300A Acoustic Radar	30 m	10 m	30 m

*whichever is greater

1.3.4 AV Nomenclature for Components

Abbreviation (alphabetical order)	Component
BARP	Barometric Pressure
CH4	Methane
CO	Carbon Monoxide
DT2	Delta T#2 (Temperature at 60 m - Temperature at 10 m)
HC	Hydrocarbons (corrected for methane)
H2S	Hydrogen Sulfide
INV	Invension Height
MIX	Mixing Height
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOX	Oxides of Nitrogen
O3	Ozone
PART	Particulates (24 hour average)
RH1	Relative Humidity at level 1 (1 m/3 ft.)
SOLR	Solar Radiation (sky only)
SO2	Sulfur Dioxide
STB1	Stability Type at level 1 (50 m)
STB2	Stability Type at level 2 (200 m)
TEM2	Temperature at level 2 (10 m/30 ft.)
TEM3	Temperature at level 3 (30 m/100 ft.)
TEM4	Temperature at level 4 (60 m/200 ft.)
THC	Total Hydrocarbons
WD2	Wind Direction at level 2 (10 m/30 ft.)
WD3	Wind Direction at level 3 (30 m/100 ft.)
WD4	Wind Direction at level 4 (60 m/200 ft.)
WS2	Wind Speed at level 2 (10 m/30 ft.)
WS3	Wind Speed at level 3 (30 m/100 ft.)
WS4	Wind Speed at level 4 (60 m/200 ft.)

SECTION 2.0

REPORTS

```
DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                         C-B OIL SHALE PROJECT, COLORADO     **********************
                                                                             *                    *
                                         SITE   20                           *     FINAL DATA     *
                                                                             *  AS OF 10/JUN/78   *
                                         MAR, 1978                           *                    *
                                                                             **********************
                                         AEROVIRONMENT INC.



                             DAY   WS1   WD1   MIX  STB1  INV   STB2


                               1     0     0    24    24    24    24
                               2     0     0    24    24    24    24
                               3     0     0    24    24    24    24
                               4     0     0    24    24    24    24
                               5     0     0    24    24    24    24
                               6     0    13    24    24    24    24
                               7     0    24    24    24    24    24
                               8     0    24    24    24    24    24
                               9     0    24    24    24    24    24
                              10     2    14    24    24    24    24
                              11     7     0    24    24    24    24
                              12     0     0    24    24    24    24
                              13     0     0    24    24    24    24
                              14     0     0    24    24    24    24
                              15     0     0    24    24    24    24
                              16     0     0     9     9     9     9
                              17     0     0     2     2     2     2
                              18     0     0     5     5     5     5
                              19     0     0    14    14    14    14
                              20     6     0    24    24    24    24
                              21     0     0    24    24    24    24
                              22     0     0    11    11    11    11
                              23     0     0     0     0     0     0
                              24     0     0    11    10    10    10
                              25     5     0     0     0     0     0
                              26     0     0     0     0     0     0
                              27     0     0     0     0     0     0
                              28     0     0     0     0     0     0
                              29     0     0     0     0     0     0
                              30     0     0     0     0     0     0
                              31     0     0     0     0     0     0

                              TT    20    99   460   459   459   459

                            %EFF    97    86    38    38    38    38


ADDTR  (05 APR 78)
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 DOWNTIME HOURS AND PERCENT EFFICIENCY KEPORT
                                                      C-B OIL SHALE PROJECT, COLORADO      ***********************
                                                                                           *                     *
                                                      SITE   23                            *     FINAL DATA      *
                                                                                           *  AS OF 10/JUN/78    *
                                                      MAR, 1978                            *                     *
                                                                                           ***********************
                                                      AEROVIRONMENT INC.


                                  DAY  BARP CH4   CO  DT2  H2S   NO  NOX   O3

                                    1     0   24   24   19    0    0   24    0
                                    2     0   24   24   13    0    0   24    0
                                    3     0   24   24    0    0    0   24    0
                                    4     0   24   24    0    0    0   20    0
                                    5     0   24   24    0    0    0   24    0
                                    6     0   24   24    0    0    0   14    0
                                    7     0   24   24    0    8    0   20    0
                                    8     0   24   24    0    9    0    6    0
                                    9     0   24   24    0    0    0    0    0
                                   10     0   24   24    0    0    0    0    0
                                   11     0   24   24    0    0    0    0    0
                                   12     0   24   24    0    0    0    0    0
                                   13     1   24   24    0    1    1    1    1
                                   14     0   24   24    0    0    0    0    0
                                   15     0   24   24    0    0    0    0    0
                                   16     0    9   16    0    0    0    0    0
                                   17     0   10   17    0    0    0    0    0
                                   18     0   24   24    0    0    0    0    0
                                   19     0   24   24    0    0    0    0    0
                                   20     1    8    8    0    1    1    1    1
                                   21    12   12   12    0   12   12   12   12
                                   22     0    0    0    0    0    0    0    0
                                   23     0    0    0    0    0    0    0    0
                                   24     0    0    0    0    0    0    0    0
                                   25     0    0    0    0    0    0    0    0
                                   26     0    0    0    0    0    0    0    0
                                   27     0    0    0    0    0    1   15    0
                                   28     0    0    0    1    0   24   24    0
                                   29     3    3    3    0    3   16   16    3
                                   30     0    0    0    0    0    0    0    0
                                   31     0    0    0    0    2    0    0    0

                                   TT    17  450  464   33   36   55  225   17

                                 %EFF    97   39   37   95   95   92   69   97

 ADDTR  (05 APR 78)
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DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

C-B OIL SHALE PROJECT, COLORADO
SITE 23
MAR, 1978
AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 10/JUN/78   *
*                    *
**********************
```

DAY	RH1	SOLR	SO2	TEM2	TEM3	TEM4	THC	WD2	WD3	WD4	WS2	WS3	WS4
1	0	24	0	19	24	24	24	19	19	19	19	19	19
2	0	24	0	13	24	24	24	23	21	14	13	23	13
3	0	24	0	0	24	24	24	24	24	8	0	24	0
4	0	24	0	0	24	24	24	9	8	7	0	8	0
5	0	24	0	0	24	24	24	0	0	0	0	0	0
6	0	24	0	0	24	24	24	0	1	0	0	0	0
7	0	24	0	0	24	24	24	0	0	0	0	0	0
8	0	24	0	0	24	24	24	0	0	0	0	0	0
9	0	24	0	0	24	24	24	0	2	0	0	0	0
10	0	24	0	0	24	24	24	0	4	0	0	0	0
11	0	24	0	0	24	24	24	1	2	0	0	0	0
12	0	24	0	0	24	24	24	0	0	0	0	0	0
13	0	24	1	0	24	24	24	0	2	0	0	0	0
14	0	24	0	0	24	24	24	0	0	0	0	0	0
15	0	24	0	0	24	24	24	0	0	1	0	0	0
16	0	24	0	0	24	24	9	0	0	0	0	0	0
17	0	24	0	0	24	24	10	0	0	0	0	0	0
18	0	24	0	0	24	24	24	1	0	0	0	0	0
19	0	24	0	0	24	24	24	0	0	0	0	0	0
20	0	24	1	0	24	24	8	0	0	0	0	0	0
21	0	24	12	0	24	24	13	0	0	0	0	0	0
22	0	24	0	0	24	24	0	0	0	0	0	0	0
23	0	24	0	0	24	24	6	1	0	0	0	0	0
24	0	24	0	0	24	24	12	5	5	4	5	0	0
25	0	24	0	0	24	24	8	9	8	7	8	0	0
26	0	24	0	0	24	24	11	0	3	0	0	0	0
27	0	24	0	0	24	24	13	0	2	0	0	0	0
28	0	24	0	0	24	24	12	0	2	1	0	0	0
29	0	24	3	0	24	24	18	0	4	0	0	0	0
30	0	10	0	0	24	24	0	0	1	0	0	0	0
31	4	0	0	0	24	24	0	0	0	0	0	0	0
TT	4	706	17	32	744	744	528	92	108	61	45	74	32
%EFF	99	5	97	95	0	0	29	87	85	91	93	90	95

ADDTR (05 APR 78)

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DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                          C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                               *                   *
                                          SITE    42                           *     FINAL DATA    *
                                                                               *  AS OF 10/JUN/78  *
                                          MAR, 1978                            *                   *
                                                                               *********************
                                          AEROVIRONMENT INC.



                                 DAY  WS1   WD1   TEM1


                                   1     0     0     0
                                   2    15    15    15
                                   3    24    24    24
                                   4    24    24    24
                                   5    24    24    24
                                   6    24    24    24
                                   7    24    24    24
                                   8    24    24    24
                                   9    24    24    24
                                  10    24    24    24
                                  11    24    24    24
                                  12    24    24    24
                                  13    15    15    15
                                  14     0     0     0
                                  15     0     0     0
                                  16    16    16    16
                                  17    24    24    24
                                  18    24    24    24
                                  19    24    24    24
                                  20    24    24    24
                                  21    24    24    24
                                  22    24    24    24
                                  23    24    24    24
                                  24    24    24    24
                                  25    24    24    24
                                  26    24    24    24
                                  27    11    11    11
                                  28    15    15    15
                                  29    24    24    24
                                  30    24    24    24
                                  31    24    24    24

                                  TT   624   624   624

                                %EFF    16    16    16


AODTR  [05 APR 78]
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DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                          C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                               *                   *
                                          SITE   56                            *     FINAL DATA    *
                                                                               *  AS OF 10/JUN/78  *
                                          MAR, 1978                            *                   *
                                                                               *********************
                                          AEROVIRONMENT INC.



                                 DAY  WS1  WD1  TEM1

                                   1    0    0    0
                                   2    0    9    0
                                   3    0   24    0
                                   4    0   12    0
                                   5    0    0    0
                                   6    0    0    0
                                   7    0    0    0
                                   8    0    0    0
                                   9    0    0    0
                                  10    0    2    0
                                  11    0   10    0
                                  12    0    0    0
                                  13    0    0    0
                                  14    0    0    0
                                  15    0    0    0
                                  16    0    0    0
                                  17    0    0    0
                                  18    0    0    0
                                  19    0    0    0
                                  20    6    6    0
                                  21    0    6    0
                                  22    0    0    0
                                  23    0    0    0
                                  24    3    4    0
                                  25    9   10    0
                                  26    0    4    0
                                  27    0    0    0
                                  28    0    0    0
                                  29    0    0    0
                                  30    0    0    0
                                  31    0    0    0

                                  TT   18   87    0

                                %EFF   97   88  100

ADDTR  (05 APR 78)
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STABILITY CLASS REPORT                                                                            PAGE:   1
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)                          C-B OIL SHALE PROJECT, COLORADO    *********************
                                                                                              *                   *
                                                           SITE   23                          *     FINAL DATA    *
                                                                                              *  AS OF 10/JUN/78  *
                                                           MAR, 1978                          *                   *
                                                                                              *********************
                                                           AEROVIRONMENT INC.


                                         CLOCK HOUR   (LOCAL STANDARD TIMES)


DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

  1  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)     D     D     D     D     D  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)
  2  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)     D     D     D     D     D     D     D     D     D     D     D
  3     D     D     D     D     D     D     C     C     D     D     D     D     B     A     A     D     D     E     E     D     E     E     E     E
  4     F     F     F     F     F     F     F     F     F     D     E     D     D     D     D     D     D     D     D     D     D     D     D     D
  5     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     E     E     E     E     E     E
  6     E     E     E     E     E     E     E     D     D     D     D     D     D     D     D     D     D     D     E     E     E     D     D     D
  7     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D     E     E     E     F     F     F
  8     F     F     F     F     F     F     F     F     E     E     D     D     D     D     D     D     D     E     E     F     F     F     F     F
  9     F     F     F     F     E     F     F     F     E     D     E     D     D     D     D     D     D     D     E     E     F     F     F     F
 10     F     E     F     E     F     F     F     F     E     D     D     D     D     D     D     D     D     D     D     D     D     D     D     D
 11     D     D     D     D     E     E     E     E     D     D     D     D     D     D     D     D     D     D     D     E     E     E     D     D
 12     E     D     D     E     E     E     E     E     D     D     D     D     D     D     D     D     D     D     D     E     E     E     D     D
 13     D     D     D     D     D     D     C     D     C     D     C     D     D     D     D     D     E     D     E     E     E     D     E     D
 14     E     E     E     E     E     E     E     D     D     D     C     B     B     C     C     D     D     D     D     D     D     D     D     D
 15     E     E     F     E     F     E     E     E     D     D     D     C     C     D     D     E     D     D     E     E     E     F     F     E
 16     F     F     F     F     F     F     E     F     E     C     D     D     D     D     D     D     D     D     E     F     F     F     F     F
 17     F     F     F     F     F     F     F     F     D     D     D     D     D     D     D     D     D     E     E     F     F     F     F     F
 18     F     F     F     E     E     E     F     F     D     D     E     E     E     E     E     E     D     E     E     E     F     F     F     F
 19     F     F     F     F     F     F     F     E     E     D     D     D     D     D     D     D     D     D     D     D     D     E     E     F
 20     E     E     F     F     F     F     F     E     E     D     D     D     D     D     D     D     D     E     E     F     F     E     F     F
 21     F     E     F     F     F     F     F     E     D     D     D     D     D     D     D     D     D     E     E     F     F     F     F     F
 22     F     F     F     F     F     E     E     E     D     D     D     D     D     D     D     D     E     E     E     E     E     E     E     E
 23     E     E     E     E     E     E     E     E     E     D     E     D     D     D     D     E     E     E     E     F     E     E     E     E
 24     F     E     E     F     E     E     E     D     D     D     D     D     D     D     D     D     D     D     D   * E   * E   * E   * E   * F
 25   * E   * F   * E   * F   * F   * F   * F   * F     E     D     D     D     D     D     D     D     D     D     D     E     F     F     F     F
 26     F     F     F     F     F     F     F     F     D     D     D     D     D     D     D     D     D     D     E     E     F     E     F     F
 27     F     F     F     F     F     F     F     F     D     D     D     D     D     D     D     D     D     E     F     F     F     F     F     F
 28     F     F     F     F     F     E     F     F     E     D     D     D     C     D  (MT)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)
 29  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)
 30  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)
 31  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)  (CA)

 *  INDICATES STABILITY CLASS WITHOUT THE WIND SPEED VALUE

 AQSCR   (05 APR 78)                                                       WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                   PAGE:  2
STABILITY DETERMINED FROM
DELTA T #2(TEMP 60M - TEMP 10M)
                                                   C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                        *                    *
                                                   SITE   23                            *     FINAL DATA     *
                                                                                        *  AS OF 10/JUN/78   *
                                                   MAR, 1978                            *                    *
                                                                                        **********************
                                                   AEROVIRONMENT INC.


                                    HOURLY WIND SPEED AND DIRECTION FOR
                                            STABILITY CLASS  A
                                    CLOCK HOUR   (LOCAL STANDARD TIMES)

DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

  1 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
    (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
  2 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
    (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
  3 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )    2    1 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
    (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (IM) (IM) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
  4 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
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  5 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
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  7 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
    (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
  8 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
    (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
  9 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
    (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
 10 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
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 AOSCR  (05 APR 78)                                                           WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                                   PAGE:   3
STABILITY DETERMINED FROM
DELTA T #2(TEMP 260M - TEMP 210M)
                                                   C-B OIL SHALE PROJECT, COLORADO           **********************
                                                                                             *                    *
                                                   SITE   23                                 *     FINAL DATA     *
                                                                                             *  AS OF 10/JUN/78   *
                                                   MAR, 1978                                 *                    *
                                                                                             **********************
                                                   AEROVIRONMENT INC.


                                       HOURLY WIND SPEED AND DIRECTION FOR
                                                STABILITY CLASS  A
                                       CLOCK HOUR    (LOCAL STANDARD TIMES)

DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

 17  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
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  AQSCR  (05 APR 78)                                                                 WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                                            PAGE:  4
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                            C-B OIL SHALE PROJECT, COLORADO          *********************
                                                                                                     *                   *
                                                            SITE   23                                *    FINAL DATA     *
                                                                                                     *  AS OF 10/JUN/78  *
                                                            MAR, 1978                                *                   *
                                                                                                     *********************
                                                            AEROVIRONMENT INC.


                                             HOURLY WIND SPEED AND DIRECTION FOR
                                                    STABILITY CLASS  6
                                             CLOCK HOUR   (LOCAL STANDARD TIMES)


DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

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 AQSCR  (05 APR 78)                                                                                  WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                        PAGE:   5
STABILITY DETERMINED FROM
DELTA T #2(TEMP 060M - TEMP 010M)
                                                   C-B OIL SHALE PROJECT, COLORADO       *********************
                                                                                         *                   *
                                                   SITE    23                            *     FINAL DATA    *
                                                                                         *  AS OF 10/JUN/78  *
                                                   MAR, 1976                             *                   *
                                                                                         *********************
                                                   AEROVIRONMENT INC.


                                 HOURLY WIND SPEED AND DIRECTION FOR
                                         STABILITY CLASS  6
                                 CLOCK HOUR    (LOCAL STANDARD TIMES)


DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

17 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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ADSCR  (05 APR 78)                                                      WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                                          PAGE:   6
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                                C-B OIL SHALE PROJECT, COLORADO         ***********************
                                                                                                        *                     *
                                                                SITE   23                               *      FINAL DATA     *
                                                                                                        *   AS OF 10/JUN/78   *
                                                                MAR, 1976                               *                     *
                                                                                                        ***********************
                                                                AEROVIRONMENT INC.


                                        HOURLY WIND SPEED AND DIRECTION FOR
                                                STABILITY CLASS  C
                                        CLOCK HOUR    (LOCAL STANDARD TIMES)


DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

  1 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
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 15 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )    2    3 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
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 16 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )    1 (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  )
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STABILITY CLASS REPORT                                                                 PAGE:  7
STABILITY DETERMINED FROM
DELTA T #2(TEMP 060M - TEMP 010M)
                                              C-B OIL SHALE PROJECT, COLORADO     ***********************
                                                                                  *                     *
                                              SITE   23                           *     FINAL DATA      *
                                                                                  *  AS OF 10/JUN/78    *
                                              MAR, 1978                           *                     *
                                                                                  ***********************
                                              AEROVIRONMENT INC.


                               HOURLY WIND SPEED AND DIRECTION FOR
                                      STABILITY CLASS  C
                               CLOCK HOUR    (LOCAL STANDARD TIMES)

DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

17  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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18  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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19  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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20  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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STABILITY CLASS REPORT                                                                   PAGE:  8
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                         C-B OIL SHALE PROJECT, COLORADO     ***********************
                                                                                             *                     *
                                                         SITE   23                           *     FINAL DATA      *
                                                                                             *   AS OF 10/JUN/76   *
                                                         MAR, 1978                           *                     *
                                                                                             ***********************
                                                         AEROVIRONMENT INC.


                                        HOURLY WIND SPEED AND DIRECTION FOR
                                               STABILITY CLASS  D
                                        CLOCK HOUR   (LOCAL STANDARD TIMES)


DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

  1   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )     1     2     3     4     4   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )
      ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ESE   SSE   SSW    SW    SW   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )
  2   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )     3     4     3     4     4     3     2     2     1     1     1
      ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   WNW  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
  3     1     2     2     2     2     1   ( )   ( )     0     2     2     2   ( )   ( )   ( )     1     1   ( )   ( )     0   ( )   ( )   ( )   ( )
     (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   ( )   ( )  (IM)  (IM)  (IM)  (IM)   ( )   ( )   ( )  (IM)  (IM)   ( )   ( )  (IM)   ( )   ( )   ( )   ( )
  4   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )     3   ( )     0     3     4     5     4     5     5     7     7     6     7     6     5
      ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   SSW   ( )   WSW     S   SSW   SSW     S     S     S     S     S     S     S     S     S
  5     5     5     6     4     6     8     4     3     4     4     7     8     8     6     4     5     3     3   ( )   ( )   ( )   ( )   ( )   ( )
        S     S     S     S     S     S     S     S     S     S   SSW   SSW   SSW   SSW    SW   SSW    SW    SW   ( )   ( )   ( )   ( )   ( )   ( )
  6   ( )   ( )   ( )   ( )   ( )   ( )   ( )     1     0     0     3     3     3     5     4     4     4     1   ( )   ( )   ( )     1     3     3
      ( )   ( )   ( )   ( )   ( )   ( )   ( )   WNW  (VA)     N   NNW    NW     N     N     N     N     N   NNE   ( )   ( )   ( )    NE   NNW     N
  7     2     3     1     2     1     2     2     1     1     0     1     1     2     1     1     1     1     2   ( )   ( )   ( )   ( )   ( )   ( )
       NW    NW   WNW   WNW   WNW    NW    NW   WNW   WNW   WNW   NNW   NNW   NNW   NNW   NNE     N     N     N   ( )   ( )   ( )   ( )   ( )   ( )
  8   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )     2     2     1     4     4     4     4   ( )   ( )   ( )   ( )   ( )   ( )   ( )
      ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   WSW   SSW   SSW     S     S   SSW   SSW   ( )   ( )   ( )   ( )   ( )   ( )   ( )
  9   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )     4   ( )     4     4     4     4     4     3     1   ( )   ( )   ( )   ( )   ( )   ( )
      ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   SSW   ( )     S   SSW   SSW   SSW   SSW   SSW     S   ( )   ( )   ( )   ( )   ( )   ( )
 10   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )     1     1     2     2     2     1     4     4     2     4     3     1     1     1     1
      ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   WNW   WNW   WNW   NNW   WNW     N   NNW     N    NW   WNW    NW    NW     W   WNW   NNW
 11     1     1     1     1   ( )   ( )   ( )   ( )     1     1     1     4     5     4     4     4     4     4     2   ( )   ( )   ( )     1     3
     (IM)     S  (VA)   WNW   ( )   ( )   ( )   ( )   WNW   NNE    SW   SSW   SSW   SSW    SW   SSW   SSW   SSW     S   ( )   ( )   ( )   SSE     S
 12   ( )     2     2   ( )   ( )   ( )   ( )   ( )     3     4     4     5     4     4     4     6     4     3     2   ( )   ( )   ( )     1     1
      ( )    SE    SE   ( )   ( )   ( )   ( )   ( )    SE    SE     S     S   SSW   SSW   SSW    SW   WSW    SW    SW   ( )   ( )   ( )     W   SSW
 13     1     0     0     3     3     2   ( )     1   ( )     1   ( )     1     2     1     4     4   ( )     3   ( )   ( )   ( )     2   ( )     1
        W    SE   ESE    NW    NW     N   ( )    SE   ( )   ENE   ( )     N   NNW   ESE    SW    NW   ( )     W   ( )   ( )   ( )    NW   ( )   WSW
 14   ( )   ( )   ( )   ( )   ( )   ( )   ( )     1     1     2   ( )   ( )   ( )   ( )   ( )     3     3     1     2     2     2     1     1     2
      ( )   ( )   ( )   ( )   ( )   ( )   ( )    NW   NNW   WNW   ( )   ( )   ( )   ( )   ( )    NW    NW   NNE    NW    NW   NNW   WNW   WNW    NW
 15   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )     0     0     1   ( )   ( )     3     4   ( )     5     4   ( )   ( )   ( )   ( )   ( )   ( )
      ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )     E     N    NW   ( )   ( )    NW    NW   ( )    NW    NW   ( )   ( )   ( )   ( )   ( )   ( )
 16   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )     3     2     2     3     4     4     3     3   ( )   ( )   ( )   ( )   ( )   ( )
      ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )   ( )    SW    SW    SW   SSW   SSW   SSW   SSW   SSW   ( )   ( )   ( )   ( )   ( )   ( )

AOSCR  (05 APR 78)                                                          WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                        PAGE:   9
STABILITY DETERMINED FROM
DELTA T #2(TEMP 60M - TEMP 10M)                 C-B OIL SHALE PROJECT, COLORADO          *********************
                                                                                         *                   *
                                                SITE   23                                *     FINAL DATA    *
                                                                                         *  AS OF 10/JUN/78  *
                                                MAR, 1978                                *                   *
                                                                                         *********************
                                                AEROVIRONMENT INC.


                              HOURLY WIND SPEED AND DIRECTION FOR
                                     STABILITY CLASS  D
                              CLOCK HOUR   (LOCAL STANDARD TIMES)


DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

17  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     2     2     3     3     3     4     4     4     3 (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     S   SSW   SSW    SW    SW    SW    SW    SW   SSW (   ) (   ) (   ) (   ) (   ) (   ) (   )
18  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     2     3 (   ) (   ) (   ) (   ) (   ) (   )     5 (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )   SSW   SSW (   ) (   ) (   ) (   ) (   ) (   )   SSW (   ) (   ) (   ) (   ) (   ) (   ) (   )
19  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     4     4     5     4     3     2     1     2     0     1     0     1 (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )    SW    SW   SSW     S   SSW    NW   NNE     N    SE   SSE   SSW   ENE (   ) (   ) (   )
20  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     3     1     2     2     1     2     2     2 (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     S    SW     W   WSW   WSW   WSW   WSW   NNW (   ) (   ) (   ) (   ) (   ) (   ) (   )
21  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     1     4     4     4     4     4     4     4     4 (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )   ENE   SSW   SSW   SSW    SW   SSW    SW   SSW   SSW (   ) (   ) (   ) (   ) (   ) (   ) (   )
22  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     4     3     1     1     3     4     6     3 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )   SSE   SSW   SSE   ESE   SSE     S    SW    SW (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
23  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     2 (   )     4     4     4     3 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     W (   )    SW   SSW   WSW   NNE (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
24  (   ) (   ) (   ) (   ) (   ) (   ) (   )     2     1     1     1     0     0     1     2     2     2     2     2 (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   )   NNW     N     N   ESE    SE    NE     E   WNW    SW    NE    SE  (VA) (   ) (   ) (   ) (   ) (   )
25  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     1     1     1     1     2     2     2     1     1     0 (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     W   ENE    NE     N     N    NW   NNW   NNE   NNW   NNW (   ) (   ) (   ) (   ) (   )
26  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     1     1     1     1     1     2     2     2     2     3 (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )   ENE   ENE     N   NNW     N    NW    NE     E   SSE   SSE (   ) (   ) (   ) (   ) (   ) (   )
27  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     1     1     1     3     4     4     4     4     4 (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     E   ENE   WNW   SSW   SSW     S   SSW   SSW   SSW (   ) (   ) (   ) (   ) (   ) (   ) (   )
28  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     1     2     3 (   )     3 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )   WNW    NW    NW (   )     N (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
29  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
30  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
31  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )

AOSCR  (05 APR 78)                                                                  WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                                           PAGE1  10
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                              C-B OIL SHALE PROJECT, COLORADO       *********************
                                                                                                    *                   *
                                                              SITE   23                             *    FINAL DATA     *
                                                                                                    *  AS OF 10/JUN/78  *
                                                              MAR, 1978                             *                   *
                                                                                                    *********************
                                                              AEROVIRONMENT INC.


                                           HOURLY WIND SPEED AND DIRECTION FOR
                                                   STABILITY CLASS  E
                                           CLOCK HOUR   (LOCAL STANDARD TIMES)

DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

  1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
  2 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
  3 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1 [   ]     1     1     1     1
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]  (IM)  (IM) [   ]  (IM)  (IM)  (IM)  (IM)
  4 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     0 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   WSW [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
  5 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2     2     1     2     1     1
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW   SSW     S     S    SE   ESE
  6     1     1     1     1     0     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1     1 [   ] [   ] [   ]
       SE    SE  (VA)     E   SSE   WNW     W [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    NW  (VA)   ENE [   ] [   ] [   ]
  7 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1     1 [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   NNW    NW   SSW [   ] [   ] [   ]
  8 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ]     3     3 [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   ENE     N [   ] [   ] [   ] [   ] [   ] [   ] [   ]     S   SSE [   ] [   ] [   ] [   ] [   ]
  9 [   ] [   ] [   ] [   ]     1 [   ] [   ] [   ]     0 [   ]     5 [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     1 [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ]   ESE [   ] [   ] [   ]  (VA) [   ]    SW [   ] [   ] [   ] [   ] [   ] [   ] [   ]     S   SSE [   ] [   ] [   ] [   ]
 10 [   ]     1 [   ]     1 [   ] [   ] [   ] [   ]     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
    [   ]     S [   ]   SSW [   ] [   ] [   ] [   ]   WSW [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
 11 [   ] [   ] [   ] [   ]     1     0     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2     2     2 [   ] [   ]
    [   ] [   ] [   ] [   ]    SE    NE    SE    NW [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSE   SSE    SE [   ] [   ]
 12     2 [   ] [   ]     1     1     1     2     2 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     1     2     2 [   ] [   ]
      SSE [   ] [   ]   ESE   ESE    SE    SE    SE [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]    SW   WSW     W [   ] [   ]
 13 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     4 [   ]     1     1     1 [   ]     2 [   ]
    [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     W [   ]    SW    SW     W [   ]   WNW [   ]
 14     1     1     1     1     1     1     2 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
      SSW    SW   SSW   SSW   SSE    NW   WNW [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]
 15     2     0 [   ]     2 [   ]     0     1     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ]     5 [   ] [   ]     3     2     1 [   ] [   ]     2
      WNW    SW [   ]    SW [   ]   SSW   SSW    SW [   ] [   ] [   ] [   ] [   ] [   ] [   ]    NW [   ] [   ]    NW   WNW    SW [   ] [   ]    SW
 16 [   ] [   ] [   ] [   ] [   ] [   ]     1 [   ]     1 [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]     2 [   ] [   ] [   ] [   ] [   ]
    [   ] [   ] [   ] [   ] [   ] [   ]    SE [   ]     E [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ] [   ]   SSW [   ] [   ] [   ] [   ] [   ]

 AGSCR  (05 APR 78)                                                                          WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                      PAGE: 11
STABILITY DETERMINED FROM
DELTA T #2(TEMP 60M - TEMP 10M)
                                                   C-H OIL SHALE PROJECT, COLORADO      *********************
                                                                                        *                   *
                                                   SITE   23                            *    FINAL DATA     *
                                                                                        *  AS OF 10/JUN/78  *
                                                   MAR, 1978                            *                   *
                                                                                        *********************
                                                   AEROVIRONMENT INC.

                                     HOURLY WIND SPEED AND DIRECTION FOR
                                              STABILITY CLASS  E
                                     CLOCK HOUR   (LOCAL STANDARD TIME)

DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

17  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     3     3 (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     S     S (   ) (   ) (   ) (   ) (   )
18  (   ) (   ) (   )     2     4     3 (   ) (   ) (   ) (   )     5     4     5     4     4     5 (   )     4     4     2 (   ) (   ) (   ) (   )
    (   ) (   ) (   )   SSW     S   SSE (   ) (   ) (   ) (   )    SW   SSW    SW    SW    SW    SW (   )   SSW   SSW    SE (   ) (   ) (   ) (   )
19  (   ) (   ) (   ) (   ) (   ) (   ) (   )     1     1 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     2     2 (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   )    SE   ESE (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     S    SW (   )
20      1     1 (   ) (   ) (   ) (   ) (   )     0     0 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     2     1 (   ) (   )     0 (   ) (   )
      SSE     S (   ) (   ) (   ) (   ) (   )    SE   SSW (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     W   SSW (   ) (   )   WNW (   ) (   )
21  (   )     1 (   ) (   ) (   ) (   ) (   )     2 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     4     4 (   ) (   ) (   ) (   ) (   )
    (   )     S (   ) (   ) (   ) (   ) (   )    SE (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )   SSW     S (   ) (   ) (   ) (   ) (   )
22  (   ) (   ) (   ) (   ) (   )     3     2     3 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     4     4     4     2     2     2     1     1
    (   ) (   ) (   ) (   ) (   )     S    SE     E (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     S   SSW     S    SE     E     E    SE   SSE
23      1     1     1     1     1     1     1     1     0 (   )     4 (   ) (   ) (   ) (   )     4     3     1     2 (   )     1     3     3     1
       SE   SSE   SSW  (VA)    SE     E   ESE   ESE   WNW (   )    NE (   ) (   ) (   ) (   )   SSW   SSW   SSE   WSW (   )     S     N  (IM)   ESE
24  (   )     1     1 (   )     1     3     2 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )  (IM)  (IM)  (IM)  (IM) (   )
    (   )   ESE   ESE (   )   SSE   WSW     W (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )  (IM)  (IM)  (IM)  (IM) (   )
25   (IM) (   )  (IM) (   ) (   ) (   ) (   ) (   )     0 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     1 (   ) (   ) (   ) (   )
     (IM) (   )  (IM) (   ) (   ) (   ) (   ) (   )  (IM) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )   SSW (   ) (   ) (   ) (   )
26  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     3     4 (   )     0 (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     S     S (   )   ENE (   ) (   )
27  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     2 (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )    SW (   ) (   ) (   ) (   ) (   ) (   )
28  (   ) (   ) (   ) (   ) (   )     1 (   ) (   )     1 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   )     W (   ) (   )     E (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
29  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
30  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
31  (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )

 AQSCR   (05 APR 78)                                                                  WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                                          PAGE:  12
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                                   C-B OIL SHALE PROJECT, COLORADO        **********************
                                                                                                          *                    *
                                                                   SITE   23                              *    FINAL DATA      *
                                                                                                          *  AS OF 10/JUN/78   *
                                                                   MAR, 1978                              *                    *
                                                                                                          **********************
                                                                   AEROVIRONMENT INC.


                                               HOURLY WIND SPEED AND DIRECTION FOR
                                                       STABILITY CLASS  F
                                               CLOCK HOUR   (LOCAL STANDARD TIMES)


DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

  1 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
  2 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
  3 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
  4     1     1     1     1     1     1     1     1     1 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
     (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
  5 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
  6 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
  7 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     1     1     1
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )   SSW     S     S
  8     1     1     0     1     1     0     1     0 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     1     1     1     2     2
     (VA)   SSE    NE   SSE   SSE   SSW   SSW     N (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )    SE    SE   SSE   SSE    SE
  9     2     2     2     1 (   )     1     1     1 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     1     1     1     1
      SSE    SE   ESE   ESE (   )     E   ESE     E (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )    SE   SSW     S   SSW
 10     1 (   )     1 (   )     2     0     0     1 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
       SE (   )    SW (   )    SW  (VA)     S   WSW (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
 11 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
 12 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
 13 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
 14 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
    (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )
 15 (   ) (   )     2 (   )     1 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     2     1 (   )
    (   ) (   )    SW (   )    SW (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )   WSW     S (   )
 16     2     1     1     1     1     1 (   )     1 (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )     1     1     1     2     1
      SSW     S     S     S     S    SE (   )   ESE (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   ) (   )   SSE     S   ESE    SE   ESE

 AOSCR  (05 APR 78)                                                                                     WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                                        PAGE: 13
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                                    C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                                          *                   *
                                                                    SITE   23                             *    FINAL DATA     *
                                                                                                          * AS OF 10/JUN/78   *
                                                                    MAR, 1976                             *                   *
                                                                                                          *********************
                                                                    AEROVIRONMENT INC.


                                                  HOURLY WIND SPEED AND DIRECTION FOR
                                                         STABILITY CLASS  F
                                                  CLOCK HOUR    (LOCAL STANDARD TIMES)


DAY     00     01     02     03     04     05     06     07     08     09     10     11     12     13     14     15     16     17     18     19     20     21     22     23

17       1      1      1      2      2      1      2      1 [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      3      3      1      2      2
       ESE     SE     SE    ESE    SSE     SE    SSE    ESE [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]    SSE    SSE     SE     SE     SE
18       3      3      2 [    ] [    ] [    ]      1      1 [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      1      1      1      1
       SSE    SSE     SE [    ] [    ] [    ]      S   [IM] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      E    ESE      S      S
19       1      1      1      2      1      1      1 [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      1
        SE    ESE    ESE    ESE      E    ESE    ESE [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]    ESE
20  [    ] [    ]      2      2      1      1      2 [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      1      1 [    ]      1      1
    [    ] [    ]     SE    SSE    SSE     SE    ESE [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]     SE    ENE [    ]    ESE     SE
21       0 [    ]      1      1      1      1      2 [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      3      2      2      2      1
        SE [    ]      S    ESE    SSW    NNE     SE [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      S    SSE    SSE     SE     SE
22       1      3      3      2      2 [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]
       SSE      S      S    SSW      S [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]
23  [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      1 [    ] [    ] [    ] [    ]
    [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      E [    ] [    ] [    ] [    ]
24       2 [    ] [    ]      1 [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]   [IM]
        SE [    ] [    ]    NNE [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]   [IM]
25  [    ]   [IM] [    ]   [IM]   [IM]   [IM]   [IM]   [IM] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      2      1      1      0
    [    ]   [IM] [    ]   [IM]   [IM]   [IM]   [IM]   [IM] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]     SW     NE     SW    WNW
26       0      0      1      0      0      0      0      0 [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      1 [    ]      1      1
      [VA]    WSW    WSW     SE    WSW      S     SE    NNW [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      S [    ]      E    ESE
27       1      1      2      2      2      2      2      2 [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      2      2      1      2      1      0
       SSE     SE     SE     SE     SE    SSE     SE    ESE [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]      S    SSW     SE      W    SSE     SW
28       1      1      1      1      1 [    ]      2      1 [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]
       ENE   [VA]    NNE     NE      W [    ]    WSW      S [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]
29  [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]
    [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]
30  [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]
    [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]
31  [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]
    [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ] [    ]

 AQSCR  (05 APR 78)                                                                   WIND SPEED: M/S
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                           PAGE:   1
                                                                C-B OIL SHALE PROJECT, COLORADO     **********************
                                                                                                    *                    *
                                                                SITE   20                           *     FINAL DATA     *
                                                                                                    *  AS OF 21/AUG/78   *
                                                                MAR, 1978                           *                    *
                                                                                                    **********************
                                                                AEROVIRONMENT INC.


COMPONENT                        AVE TIME  RANK  DAY  HOUR(BEG)  VALUE     UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                         LST                             10M                 10M

PARTICULATES (24 HR. AVG)
                                  24 HR     1      9     00        4.2  UGM/ M**3        3        M/S        [IM]        DEG
                                            2     21     00        2.6  UGM/ M**3        3        M/S         150        DEG
                                            3     18     00        1.5  UGM/ M**3        3        M/S         145        DEG
                                            4      3     00         .5  UGM/ M**3        2        M/S         240        DEG
                                            5      6     00         .0  UGM/ M**3        2        M/S        [IM]        DEG
```

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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                         PAGE:   1

                                                     C-B OIL SHALE PROJECT, COLORADO        *********************
                                                                                            *                   *
                                                     SITE   23                              *     FINAL DATA    *
                                                                                            *  AS OF 21/AUG/78  *
                                                     MAR, 1978                              *                   *
                                                                                            *********************
                                                     AEROVIRONMENT INC.


COMPONENT                      AVE TIME  RANK  DAY  HOUR(BEG)  VALUE     UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                       LST                            10M                  10M

CARBON MONOXIDE
                                01 HR     1    28     10         .5  MGM/ M**3          2       M/S         315        DEG
                                          2    29     11         .5  MGM/ M**3          3       M/S         130        DEG
                                          3    30     11         .5  MGM/ M**3          5       M/S         180        DEG
                                          4    30     12         .5  MGM/ M**3          5       M/S         180        DEG
                                          5    30     13         .5  MGM/ M**3          6       M/S         200        DEG
                                08 HR     1    30     08         .4  MGM/ M**3          5       M/S         195        DEG
                                          2    31     00         .3  MGM/ M**3          3       M/S         180        DEG
                                          3    29     04         .3  MGM/ M**3          1       M/S         110        DEG
                                          4    28     10         .3  MGM/ M**3          3       M/S         215        DEG
                                          5    29     20         .3  MGM/ M**3          1       M/S         140        DEG
PARTICULATES (24 HR. AVG)
                                24 HR     1    21     00        5.5  UGM/ M**3          2       M/S         170        DEG
                                          2    27     00        5.0  UGM/ M**3          2       M/S         175        DEG
                                          3    15     00        3.5  UGM/ M**3          2       M/S         250        DEG
                                          4     9     00        2.5  UGM/ M**3          2       M/S         165        DEG
                                          5    18     00        1.7  UGM/ M**3          3       M/S         180        DEG
HYDROCARBONS (CORRECTED FOR CH4)
                                03 HR     1    30     06       1747  UGM/ M**3          2       M/S         155        DEG
                                          2    17     06       1114  UGM/ M**3          2       M/S         145        DEG
                                          3    31     06       1005  UGM/ M**3          4       M/S         205        DEG
                                          4    22     06        721  UGM/ M**3          3       M/S         125        DEG
                                          5    28     06        633  UGM/ M**3          2       M/S         170        DEG


 AQISA  (22 APR 78)
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                        PAGE:   2

                                                      C-B OIL SHALE PROJECT, COLORADO        *********************
                                                                                             *                   *
                                                      SITE   23                              *     FINAL DATA    *
                                                                                             *  AS OF 19/JUL/78  *
                                                      MAR, 1978                              *                   *
                                                                                             *********************
                                                      AEROVIRONMENT INC.


COMPONENT                   AVE TIME  RANK  DAY  HOUR(BEG)  VALUE     UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                   LST                              10M                  10M

SULFUR DIOXIDE
                            03 HR      1    26     16         20   UGM/ M**3         3       M/S          160        DEG
                                       2    26     21         20   UGM/ M**3         1       M/S           90        DEG
                                       3    26     04         15   UGM/ M**3         0       M/S          185        DEG
                                       4    25     06         15   UGM/ M**3       (IM)      M/S         (IM)        DEG
                                       5    25     18         15   UGM/ M**3         1       M/S          255        DEG
                            24 HR      1    25     23         15   UGM/ M**3         1       M/S          180        DEG
                                       2    25     02         10   UGM/ M**3       (IM)      M/S         (IM)        DEG
                                       3    26     23          5   UGM/ M**3         2       M/S          165        DEG
                                       4    30     11          0   UGM/ M**3         3       M/S          190        DEG
                                       5    31     11          0   UGM/ M**3         4       M/S          170        DEG
OZONE
                            01 HR      1     8     12        145   UGM/ M**3         1       M/S          200        DEG
                                       2     8     13        145   UGM/ M**3         4       M/S          170        DEG
                                       3     8     14        145   UGM/ M**3         4       M/S          170        DEG
                                       4     8     15        145   UGM/ M**3         4       M/S          200        DEG
                                       5     8     11        140   UGM/ M**3         2       M/S          210        DEG


 AQISA  (22 APR 78)
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE

                                                        C-B OIL SHALE PROJECT, COLORADO     *.....................*
                                                                                            *                     *
                                                        SITE   42                           *     FINAL DATA      *
                                                                                            *  AS OF 21/AUG/78    *
                                                        MAR, 1978                           *                     *
                                                                                            ***********************
                                                        AEROVIRONMENT INC.


COMPONENT                      AVE TIME  RANK  DAY  HOUR(BEG)  VALUE    UNITS      WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                       LST                            10M                  10M

PARTICULATES (24 HR. AVG)
                               24 HR       1    29     00         .0  UGM/ M**3       [IM]      M/S        [IM]        DEG
                                           2     0     23       [IM]  UGM/ M**3       [  ]      M/S        [  ]        DEG
                                           3     0     23       [IM]  UGM/ M**3       [  ]      M/S        [  ]        DEG
                                           4     0     23       [IM]  UGM/ M**3       [  ]      M/S        [  ]        DEG
                                           5     0     23       [IM]  UGM/ M**3       [  ]      M/S        [  ]        DEG
```

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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                        PAGE:   1

                                                C-B OIL SHALE PROJECT, COLORADO       **********************
                                                                                      *                    *
                                                SITE    56                            *     FINAL DATA     *
                                                                                      *  AS OF 21/AUG/78   *
                                                MAR, 1978                             *                    *
                                                                                      **********************
                                                AEROVIRONMENT INC.



COMPONENT                   AVE TIME  RANK  DAY  HOUR(BEG)  VALUE    UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                    LST                           10M                  10M

PARTICULATES (24 HR. AVG)
                              24 HR     1    30     00       9.6  UGM/ M**3        2       M/S        125        DEG
                                        2     9     00       3.9  UGM/ M**3        2       M/S        110        DEG
                                        3    27     00       1.4  UGM/ M**3        2       M/S        120        DEG
                                        4    21     00       1.1  UGM/ M**3        2       M/S       (IM)        DEG
                                        5    15     00       1.0  UGM/ M**3        2       M/S        160        DEG
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DAILY AVERAGES SUMMARY REPORT

                                             C-B OIL SHALE PROJECT, COLORADO       ***********************
                                                                                   *                     *
                                             SITE   20                             *      FINAL DATA     *
                                                                                   *   AS OF 10/JUN/78   *
                                             MAR, 1978                             *                     *
                                                                                   ***********************
                                             AEROVIRONMENT INC.


                           DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                          (75% FOR TEMP AND REL HUMIDITY)

                     DAY    WS1       WD1       MIX      STB1       INV      STB2
                           M/S       DEG       M       0=ST1=UN    M       0=ST1=UN
                              10M       10M       0M       50M        0M      200M

                      1       3       125        *        *         *         *
                      2       3       225        *        *         *         *
                      3       2       240        *        *         *         *
                      4       2       160        *        *         *         *
                      5       3       145        *        *         *         *
                      6       2         *        *        *         *         *
                      7       2         *        *        *         *         *
                      8       3         *        *        *         *         *
                      9       3         *        *        *         *         *
                     10       2         *        *        *         *         *
                     11       2       180        *        *         *         *
                     12       2       145        *        *         *         *
                     13       1       190        *        *         *         *
                     14       2       220        *        *         *         *
                     15       3       175        *        *         *         *
                     16       4       135        *        1         *         1
                     17       4       140       30        0       180         1
                     18       3       145        *        0         *         1
                     19       3       150        *        *         *         *
                     20       3       155        *        *         *         *
                     21       3       150        *        *         *         *
                     22       2       120        *        0         *         1
                     23       2       105       40        0       260         1
                     24       2       160       30        0       180         1
                     25       2       155       30        0       180         1
                     26       2       135       30        0       180         1
                     27       3       145       30        0       180         1
                     28       2       115       30        0       170         1
                     29       2       130       30        0       180         1
                     30       3       165       30        0       210         1
                     31       3       150       30        0       240         1

                     AV       3       155        *        *         *         *

          * INDICATES NOT ENOUGH DATA FOR AVERAGE
AQMAR   (04 MAY 78)
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DAILY AVERAGES SUMMARY REPORT

                                   C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                        *                    *
                                   SITE   23                            *     FINAL DATA     *
                                                                        *  AS OF 15/AUG/78   *
                                   MAR, 1978                            *                    *
                                                                        **********************
                                   AEROVIRONMENT INC.


                      DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                     (75% FOR TEMP AND REL HUMIDITY)

 DAY    NOX       NO2       NO        SO2       H2S       O3        THC       HC        CH4       CO
     UGM/M**3  UGM/M**3  UGM/M**3  UGM/M**3  UGM/M**3  UGM/M**3  UGM/M**3  UGM/M**3  UGM/M**3  MGM/M**3

   1     *         *         0         0         0        96         *         *         *         *
   2     *         *         0         0         0       101         *         *         *         *
   3     *         *         0         0         0       115         *         *         *         *
   4     *         *         0         0         0       109         *         *         *         *
   5     *         *         0         0         0       110         *         *         *         *
   6     *         *         0         0         0        92         *         *         *         *
   7     *         *         0         0         0        81         *         *         *         *
   8     1         1         0         0         0       118         *         *         *         *
   9     1         0         0         0         0       125         *         *         *         *
  10     1         1         1         0         0       107         *         *         *         *
  11     1         0         1         0         0       102         *         *         *         *
  12     1         0         1         0         0       112         *         *         *         *
  13     5         3         2         0         0       108         *         *         *         *
  14     4         3         2         0         0       108         *         *         *         *
  15     3         0         2         0         0       111         *         *         *         *
  16     2         0         2         0         4       102         *         *         *         *
  17     1         0         1         0         3        92      1577       702       875         *
  18     0         0         0         0         0        87         *         *         *         *
  19     0         0         0         0         0        80         *         *         *         *
  20     0         0         0         1         0        76         *         *         *         *
  21     0         0         0         0         0        91         *         *       797        .1
  22     0         0         0         0         0        91      1466       672       794        .1
  23     0         0         0         0         0        80      1615       790       833        .2
  24     0         0         0         0         0        73         *         *       940        .2
  25     0         0         0         7         0        78      2170      1286       890        .2
  26     0         0         0        13         0        81      2227      1436       781        .2
  27     *         *         *         3         0        81         *         *       797        .2
  28     *         *         *         0         0        78      1381       535       849        .3
  29     *         *         *         0         0        86         *         *       855        .3
  30     0         0         1         2         0        93      1763       903       860        .3
  31     0         0         1         1         0        72      1567       689       877        .3

  AV     1         0         0         1         0        95         *         *         *         *

       * INDICATES NOT ENOUGH DATA FOR AVERAGE
AQMAR  (15 AUG 78)
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DAILY AVERAGES SUMMARY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*  AS OF 10/JUN/78   *
*                    *
**********************
```

DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
(75% FOR TEMP AND REL HUMIDITY)

DAY	TEM2 DEGC 10M	TEM3 DEGC 30M	TEM4 DEGC 60M	RH1 PER	BARP MM HG	SOLR LY	DT2 DEGC 60-10M
1	*	*	*	78	592	*	*
2	*	*	*	89	593	*	*
3	-9	*	*	86	594	*	-.4
4	-2	*	*	77	595	*	.5
5	1	*	*	74	593	*	-.2
6	0	*	*	80	598	*	-.3
7	1	*	*	69	604	*	-.2
8	2	*	*	55	603	*	.6
9	4	*	*	57	599	*	.5
10	1	*	*	78	595	*	.1
11	0	*	*	74	595	*	-.4
12	0	*	*	76	591	*	-.3
13	-2	*	*	71	593	*	-.5
14	-5	*	*	75	595	*	-.4
15	-6	*	*	62	601	*	.0
16	-2	*	*	50	605	*	.7
17	3	*	*	47	604	*	.7
18	6	*	*	43	601	*	.5
19	4	*	*	63	599	*	.5
20	4	*	*	69	599	*	.4
21	6	*	*	55	597	*	.5
22	3	*	*	76	594	*	.1
23	2	*	*	82	595	*	.0
24	1	*	*	87	598	*	-.1
25	1	*	*	65	602	*	.5
26	5	*	*	56	601	*	.6
27	8	*	*	44	599	*	.6
28	7	*	*	50	598	*	.5
29	8	*	*	46	600	*	*
30	10	*	*	45	600	34	*
31	9	*	*	63	597	20	*
AV	2	*	*	66	598	*	.2

* INDICATES NOT ENOUGH DATA FOR AVERAGE

ADMAR (04 MAY 78)

DAILY AVERAGES SUMMARY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAR, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*  AS OF 10/JUN/78   *
*                    *
**********************
```

DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
(75% FOR TEMP AND REL HUMIDITY)

DAY	WS2 M/S 10M	WD2 DEG 10M	WS3 M/S 30M	WD3 DEG 30M	WS4 M/S 60M	WD4 DEG 60M
1	*	*	*	*	*	*
2	*	*	*	*	*	*
3	1	*	*	*	1	290
4	3	195	6	190	4	195
5	4	190	5	190	5	195
6	2	205	3	230	3	225
7	1	245	2	295	2	265
8	2	180	2	160	2	165
9	2	165	3	165	3	175
10	2	250	2	270	2	275
11	2	165	3	180	3	165
12	3	185	4	185	4	190
13	2	205	2	230	2	215
14	2	260	3	260	3	275
15	2	250	2	255	2	290
16	2	170	2	175	2	185
17	2	165	3	160	3	175
18	3	180	4	180	4	200
19	2	160	2	165	2	165
20	1	185	2	200	2	210
21	3	170	3	155	3	185
22	3	165	4	160	4	175
23	2	155	2	155	3	215
24	1	140	2	130	2	200
25	1	185	1	225	1	195
26	1	170	2	180	2	140
27	2	175	2	165	2	180
28	2	175	2	190	2	190
29	2	160	2	150	2	160
30	3	175	3	180	3	210
31	4	180	5	180	5	190
AV	2	185	3	190	3	205

* INDICATES NOT ENOUGH DATA FOR AVERAGE

ADMAR (04 MAY 78)

```
DAILY AVERAGES SUMMARY REPORT

                                   C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                        *                    *
                                   SITE     42                          *     FINAL DATA     *
                                                                        *  AS OF 10/JUN/78   *
                                   MAR, 1978                            *                    *
                                                                        **********************
                                   AEROVIRONMENT INC.


                    DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                   (75% FOR TEMP AND REL HUMIDITY)

                       DAY    WS1       WD1      TEM1
                             M/S       DEG      DEGC
                                10M       10M      10M


                         1      3       145        1
                         2      *         *        *
                         3      *         *        *
                         4      *         *        *
                         5      *         *        *
                         6      *         *        *
                         7      *         *        *
                         8      *         *        *
                         9      *         *        *
                        10      *         *        *
                        11      *         *        *
                        12      *         *        *
                        13      *         *        *
                        14      3       235       -8
                        15      2       195       -9
                        16      *         *        *
                        17      *         *        *
                        18      *         *        *
                        19      *         *        *
                        20      *         *        *
                        21      *         *        *
                        22      *         *        *
                        23      *         *        *
                        24      *         *        *
                        25      *         *        *
                        26      *         *        *
                        27      3       165        *
                        28      *         *        *
                        29      *         *        *
                        30      *         *        *
                        31      *         *        *

                        AV      *         *        *

       * INDICATES NOT ENOUGH DATA FOR AVERAGE
AQMAR  (04 MAY 78)
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DAILY AVERAGES SUMMARY REPORT
                                              C-B OIL SHALE PROJECT, COLORADO      ********************
                                                                                   *                  *
                                              SITE   56                            *    FINAL DATA    *
                                                                                   *  AS OF 10/JUN/78 *
                                              MAR, 1978                            *                  *
                                                                                   ********************
                                              AEROVIRONMENT INC.


                        DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                   (75% FOR TEMP AND REL HUMIDITY)

                            DAY    WS1       WD1      TEM1
                                  M/S       DEG      DEGC
                                     10M       10M      10M


                              1      2       120         0
                              2      2       155        -4
                              3      2         *       -12
                              4      2       130        -8
                              5      2       130         0
                              6      2       205        -2
                              7      2       220        -2
                              8      2       105        -3
                              9      2       110         0
                             10      2       210        -2
                             11      2       140        -2
                             12      2       145        -2
                             13      1       150        -3
                             14      1       200        -9
                             15      2       160       -11
                             16      2       110        -7
                             17      2       120        -2
                             18      2       135         2
                             19      2       135         1
                             20      2       135         2
                             21      2       125         2
                             22      2       120        -1
                             23      2       125         0
                             24      1       125        -1
                             25      1       175        -2
                             26      2       120         1
                             27      2       120         4
                             28      2       155         3
                             29      2       120         5
                             30      2       125         6
                             31      3       135         8

                             AV      2       140        -1

   * INDICATES NOT ENOUGH DATA FOR AVERAGE
AOMAR  (04 MAY 78)
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```
VECTORIAL AVERAGE WIND SPEED AND DIRECTION
                      (M/S)      (DEGREES)

                                        C-B OIL SHALE PROJECT, COLORADO       **********************
                                                                              *                    *
                                        SITE   20                             *     FINAL DATA     *
                                                                              *  AS OF 10/JUN/78   *
                                        MAR, 1978                             *                    *
                                                                              **********************
                                        AEROVIRONMENT INC.


                         DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)


                                   DAY  WS1  WD1
                                        10M  10M


                                     1    2  120
                                     2    2  280
                                     3    2  290
                                     4    1  120
                                     5    2  145
                                     6    *    *
                                     7    *    *
                                     8    *    *
                                     9    *    *
                                    10    *    *
                                    11    1  160
                                    12    2  150
                                    13    0  355
                                    14    0  310
                                    15    0   85
                                    16    4  140
                                    17    3  140
                                    18    3  150
                                    19    2  140
                                    20    1  125
                                    21    3  150
                                    22    2  115
                                    23    2  105
                                    24    1  115
                                    25    1  155
                                    26    2  130
                                    27    2  145
                                    28    1   70
                                    29    2  135
                                    30    3  160
                                    31    2  160

                                    AV    2  150


           * INDICATES NOT ENOUGH DATA FOR AVERAGES
AOMVR   (04 MAY 78)
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VECTORIAL AVERAGE WIND SPEED AND DIRECTION
                      (M/S)      (DEGREES)

                                         C-B OIL SHALE PROJECT, COLORADO        *********************
                                                                                *                   *
                                         SITE   23                              *     FINAL DATA    *
                                                                                *  AS OF 10/JUN/78  *
                                         MAR, 1978                              *                   *
                                                                                *********************
                                         AEROVIRONMENT INC.


                         DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)


                            DAY   WS2  WD2  WS3  WD3  WS4  WD4
                                  10M  10M  30M  30M  60M  60M


                             1     *    *    *    *    *    *
                             2     *    *    *    *    *    *
                             3     *    *    *    *    *  295
                             4     5  190    6  185    6  190
                             5     4  195    5  190    5  195
                             6     2  355    2  345    2  340
                             7     1  320    1  315    1  320
                             8     1  175    2  160    2  175
                             9     2  185    2  175    2  190
                            10     1  315    2  315    1  315
                            11     2  195    2  185    2  180
                            12     2  190    3  180    3  185
                            13     1  300    1  290    1  245
                            14     1  325    2  310    2  300
                            15     2  290    2  290    2  300
                            16     1  190    2  165    2  200
                            17     2  180    3  170    3  185
                            18     3  195    3  190    4  200
                            19     1  175    1  160    1  200
                            20     1  190    1  190    2  210
                            21     2  190    2  175    2  195
                            22     2  175    3  170    3  180
                            23     1  195    1  185    2  215
                            24     0  150    0   80    0  235
                            25     1  345    1  325    1  335
                            26     0  130    1  150    1  145
                            27     2  180    2  170    2  190
                            28     1  360    1    5    1  350
                            29     1  180    2  180    2  190
                            30     2  190    3  190    3  205
                            31     4  185    4  185    5  195

                            AV     2  185    2  185    2  200

          * INDICATES NOT ENOUGH DATA FOR AVERAGES
      ADMVR  (04 MAY 78)
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VECTORIAL AVERAGE WIND SPEED AND DIRECTION
                    (M/S)      (DEGREES)

                                              C-H OIL SHALE PROJECT, COLORADO       **********************
                                                                                    *                    *
                                              SITE    42                            *     FINAL DATA     *
                                                                                    *  AS OF 10/JUN/78   *
                                              MAR, 1978                             *                    *
                                                                                    **********************
                                              AEROVIRONMENT INC.


                             DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)


                                     DAY  WS1  WD1
                                          10M  10M

                                       1    2  160
                                       2    *    *
                                       3    *    *
                                       4    *    *
                                       5    *    *
                                       6    *    *
                                       7    *    *
                                       8    *    *
                                       9    *    *
                                      10    *    *
                                      11    *    *
                                      12    *    *
                                      13    *    *
                                      14    1  320
                                      15    1  325
                                      16    *    *
                                      17    *    *
                                      18    *    *
                                      19    *    *
                                      20    *    *
                                      21    *    *
                                      22    *    *
                                      23    *    *
                                      24    *    *
                                      25    *    *
                                      26    *    *
                                      27    2  200
                                      28    *    *
                                      29    *    *
                                      30    *    *
                                      31    *    *

                                      AV    *    *


    * INDICATES NOT ENOUGH DATA FOR AVERAGES
ADHVR  (04 MAY 78)
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```
VECTORIAL AVERAGE WIND SPEED AND DIRECTION
                   (M/S)      (DEGREES)

                                        C-B OIL SHALE PROJECT, COLORADO        *********************
                                                                               *                   *
                                        SITE    56                             *     FINAL DATA    *
                                                                               *  AS OF 10/JUN/78  *
                                        MAR, 1978                              *                   *
                                                                               *********************
                                        AEROVIRONMENT INC.


                        DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)


                               DAY  WS1  WD1
                                    10M  10M


                                 1    2  115
                                 2    1  205
                                 3    *    *
                                 4    2  115
                                 5    2  140
                                 6    1  330
                                 7    1  250
                                 8    2  100
                                 9    1  110
                                10    0  300
                                11    2  150
                                12    1  145
                                13    0  160
                                14    0  260
                                15    0  350
                                16    2  105
                                17    2  120
                                18    2  145
                                19    1  125
                                20    1  110
                                21    2  135
                                22    1  115
                                23    1  120
                                24    1  105
                                25    0  175
                                26    1  110
                                27    1  120
                                28    1  100
                                29    1  125
                                30    2  135
                                31    2  145

                                AV    1  130


      * INDICATES NOT ENOUGH DATA FOR AVERAGES
ADMVR  (08 MAY 78)
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DATA REPORT

DP78-040

Final Submission

AIR QUALITY DATA

PROTOTYPE OIL SHALE LEASE TRACT C-b

Volume I

April 1978 Data

Submitted July 19, 1978

AeroVironment Inc.
145 Vista Avenue
Pasadena, California 91107

PREFACE

This volume is the final submission acquired during the air quality/meteorology portions of the monitoring program for oil shale tract C-b. The period covered runs from 1 April through 30 April 1978.

This report is divided into two volumes. Volume I contains all of the basic data (hourly averages). Volume II contains all of the computer analysis reports.

TABLE OF CONTENTS

SECTION 1.0 - General

1.1 Introduction
1.2 Description of Instrument Systems

- 1.2.1 Air Quality Instrumentation
- 1.2.2 Air Quality Equipment Calibration Procedure
- 1.2.3 Data Acquisition System
- 1.2.4 Meteorological Instruments

1.3 Data Description

- 1.3.1 Description of Data Tables
- 1.3.2 Data Acceptance Algorithm
- 1.3.3 Data Precision and Lower Detection Limit
- 1.3.4 Data Listing

1.4 Descriptive Regional Meteorological Summary

SECTION 2.0 - Meteorology

2.1 Hourly Average Data Tabulations for All Sites in Order by Site Number

- 2.1.1 Wind Speed, (WS2-4), 10 m, 30 m, 60 m
- 2.1.2 Wind Direction (WD2-4), 10 m, 30 m, 60 m
- 2.1.3 Temperature (T2-4), 10 m, 30 m, 60 m
- 2.1.4 Lapse Rate (Delta T, DT2) 60 m-10 m
- 2.1.5 Relative Humidity (RH1), 10 m
- 2.1.6 Barometric Pressure (BARP)
- 2.1.7 Solar Radiation (SOLR)
- 2.1.8 Mixing Height (MIX)
- 2.1.9 Inversion Height (INV)
- 2.1.10 Stability Type (STB1, 2) 50 m, 200 m

2.2 Miscellaneous Data

- 2.2.1 Double Theodolite (Wind Speed, Wind Direction, and Temperature versus Altitude)

SECTION 3.0 - Air Quality

3.1 Hourly Average Data Tabulations for All Sites in Order by Site Number

- 3.1.1 Hydrogen Sulfide (H_2S)
- 3.1.2 Sulfur Dioxide (SO_2)
- 3.1.3 Total Hydrocarbons (THC), expressed as $\mu g/m^3$ of CH_4

3.1.4 Methane (CH_4)
3.1.5 Hydrocarbons (methane-reduced) (HC = THC - CH_4), expressed as µg/m^3 of CH_4
3.1.6 Carbon Monoxide (CO)
3.1.7 Nitrogen Oxides (NO_x), expressed as µg/m^3 of NO_2
3.1.8 Nitric Oxide, NO
3.1.9 Nitrogen Dioxide (NO_2)
3.1.10 Ozone (O_3)

3.2 Miscellaneous Data

3.2.1 High Volume Sampler, Suspended Particulates

Not all sites measure all of these parameters.

SECTION 1.0

GENERAL

1.0 GENERAL

1.1 Introduction

AeroVironment Inc. is performing an air quality and meteorological measurement program on the C-b shale oil tract for C-b Shale Oil Venture. Various parameters of air quality and meteorological data are collected at a network of sites. A listing of data collected during this month is contained in Section 1.3.

1.2 Description of Instrument Systems

1.2.1 Air Quality Instrumentation

The ambient air sample is drawn in through a glass cane and manifold supplied by the Ace Glass Company. The system has a 25 mm diameter, through which an air flow is provided by an air pump rated at 60 cfm. The manifold has sampling ports to which 1/4" Teflon lines are connected to the air quality instruments. All joints in the sampling system are secured by O-ring compression fittings. The following are the air quality instruments used:

- Oxides of Nitrogen

Oxides of nitrogen are measured by use of a Monitor Labs Model 8440E analyzer. Operating on the chemiluminescent principle, this dual-channel analyzer continuously monitored both NO_x and NO. The NO_2 value is calculated by the off-site computer by subtracting the NO value from the NO_x value. Designated by the EPA as a reference instrument, it has a lower detection limit of 2 parts per billion (ppb) and a linearity of ± 1%.

- Sulfur Dioxide

Sulfur dioxide is continuously measured with a Meloy Model SA185–2A sulfur analyzer equipped with a Meloy Model H_2S-1 hydrogen sulfide

scrubber. This instrument utilizes the principle of flame photometric detection (FPD) for operation. It is designated by EPA as an equivalent instrument. The instrument has a lower detection limit of 5 ppb and a linearity of ± 1%.

- Hydrogen Sulfide

Hydrogen sulfide is monitored continuously by using a Meloy Model SA185-2 equipped with a Meloy Model SO_x-1 sulfur dioxide scrubber. It also utilizes the FPD principle, and its lower detection limit is 5 ppb and linearity ± 1%.

- Ozone

Ozone is measured continuously by using a Meloy Model OA350 analyzer. Based on the chemiluminescent principle, it has a lower detection limit of 1 ppb and a linearity of ± 1%.

- Hydrocarbons and Carbon Monoxide

Total hydrocarbons, methane, and carbon monoxide are monitored by use of a Bendix Model 8200 analyzer. This instrument utilizes the gas chromatography-flame ionization detection principle, and measures each parameter once every five minutes. The non-methane hydrocarbon value is obtained by subtracting the methane value from the total hydrocarbon value. This instrument has a lower detection limit of 100 ppb for all three components.

- Total Suspended Particulates

A General Metal Works Model 2000 high volume sampler and glass fiber filter paper are employed to collect the ambient air total suspended particulates. The high volume sampler is turned on and off by a timer, once every three days, from midnight to midnight. Thus, a 24-hour integrated sample is collected.

The glass fiber filter paper is conditioned in a humidity controlled chamber for at least 24 hours before it is weighed. This procedure applies to both before and after it is exposed to the ambient air. The weighing is carried out by using a Torbal Model EA-1-AP balance.

A Dickon recorder is used to record the high volume sampling flowrate throughout the 24-hour sampling period.

1.2.2 Air Quality Equipment Calibration Procedures

- Daily Zero and Span Check

A Meloy Model RAD-1 calibration unit is used to perform the daily zero and span check on the NO/NO_x, SO_2, and H_2S analyzers. This instrument provides a zero air supply, SO_2 span gas from an SO_2 permeation tube, and NO span gas obtained by precisely diluting bottled NO span gas. The zero and span checks of all instruments are manually performed once a day. Each instrument is first switched to zero and the zero value is recorded on the multipoint chart recorders. After a stable zero signal has been obtained, a span gas is supplied to each channel until a stable span value has been reached. This value is recorded on the multipoint chart recorders. Both the zero and span values should be within the tolerance limit specified; otherwise, the analyzer is recalibrated. The instruments are then returned to the monitor mode.

The bottled NO span gas used for this purpose was obtained from Precision Gas Products. The SO_2 permeation tubes were manufactured by Metronics Associates, Inc.

The Model OA350 ozone analyzer has its own calibration system, which provides a zero check and a span check. The zero and span check is also done manually once a day.

The Model 8200 total hydrocarbon, methane, and carbon monoxide analyzer is calibrated with undiluted span gas obtained from Scott-Merrin.

This span gas contains methane and carbon monoxide in air; the methane being used to calibrate both the total hydrocarbon channel and the methane channel. The Model 8200 is zeroed with air from a Bendix Model 8834 zero air unit. In addition, the instrument is electronically re-zeroed at the start of every five-minute cycle.

- Multi-Point Calibration

Monthly multi-point calibrations of all air quality instruments are performed. The purpose of the monthly calibration is two-fold: 1) to check the instrument linearity, and 2) to assign the values of the on-site calibration sources so that they are NBS traceable.

The air quality instruments for SO_2, H_2S, O_3, and NO/NO_x are dynamically calibrated by use of a Monitor Labs Model 8500 Dynamic Calibration System. This calibrator utilizes the permeation principle for SO_2 and H_2S, ozonation of air for ozone, and dilution of concentrated NO to ambient level NO, and can perform gas phase titration of NO and O_3 for NO_2 calibrations. It is capable of producing stable concentrations for the purpose of calibration of the instruments. For the $THC/CH_4/CO$ instruments, three cylinders of gases containing approximately 0, 4, and 8 ppm of CH_4 and CO are used to calibrate the analyzers.

The calibrator's SO_2 permeation tube output is calibrated quarterly by using the EPA-prescribed pararosaniline method (Federal Register, Vol. 36, No. 84, Part II, April 30, 1971); H_2S output by the cadmium hydroxide stractan method (Intersociety Committee, American Public Health Association, Washington, D.C., 1972); and O_3 output by the EPA-prescribed 1% neutral buffered potassium iodide (NBKI) method (Federal Register, ibid). The concentrated NO cylinder used (~ 100 ppm) is NBS traceable, and the traceability is maintained by re-analyzing the cylinder once every six months by using an NBS cylinder. The dilution system of the calibrator is checked once every three months by using an NBS traceable test meter. The NO dilution output from the calibrator is further calibrated quarterly by use of the Saltzman method (Intersocity Committee, ibid).

Cylinders used to calibrate THC/CH_4/CO instruments are NBS traceable. The traceability is maintained by re-analyzing the cylinders once every six months by using an NBS cylinder.

The high volume sampler is calibrated monthly by use of a set of resistance plates which, in turn, is calibrated by using an NBS traceable Roots Meter once a year. The balance used for weighing glass fiber filters is calibrated quarterly by using a set of NBS traceable weights.

1.2.3 Data Acquisition System

Esterline Angus Model E1124E multipoint chart recorders are used as primary recording means to monitor data. The EA chart recorder logs data at 2-1/2-minute intervals. The data reflects the real time value at that instant.

1.2.4 Meteorological Instruments

- Site 023

The meteorological tower itself is a 60-meter Rohn Model 80 Guyed Tower, designed for 40 pounds per square foot wind load with 1/2" of radial ice per EIA Standard RS-222-B, to support four levels of meteorological equipment. The material consists of tower sections with a tapered base, three retractable booms 12 feet long, three outside work platforms, an inside ladder for climbing, two base ground kits, and one anchor ground kit. The cable-type Safety Climbing Device consists of a cable and attachment mechanisms with a locking sleeve and safety belt. The tower is lighted and painted according to FAA specification.

All instrumentation, except at the ground level, is mounted at the end of 12-foot retractable booms. These booms are 3-inch box beams which are on rollers and can be retracted to the instrument platforms for instrument maintenance.

The tower has instrumentation at three levels: 10 m, 30 m, and 60 m. There were wind speed and direction sensors at all three levels, and temperature, at the 10 m and 60 m levels. Relative humidity, solar radiation and barometric pressure sensors are at the ground level. Temperature difference thermistors and their associated circuitry took lapse rate measurements for the 10 m to 60 m layer.

Wind Speed and Direction

The wind direction and speed apparatus used at each measurement level of the tower is the Model 1074-2 wind sensor by Meteorological Research, Inc. (MRI). This sensor has a 540° potentiometer for wind direction and a light chopper for wind speed. This sensor is rugged, with an all-weather cup and damped vane assembly. The wind sensors on the tower have been specially treated with a black paint which will promote warming of the exposed surfaces of the sensor and thereby reduce ice and snow accumulations on the moving parts of the apparatus. The specifications on the Model 1074-2 are as follows:

Wind Speed

- Starting Threshold: 0.75 mph.
- Response Distance: 18 feet (63% recovery)
- Flow Coefficient: 7.9 feet/Revolution
- Precision: ± 0.4 mph or 1% (whichever is greater)

Wind Direction

- Starting Threshold: 0.75 mph
- Delay Distance: 4 feet (50% recovery)
- Damping Ratio: 0.5 to 0.6
- Precision (540° system): ± 1%
- Range: 0° to 540°

Temperature

The temperature sensors are mounted within a power-aspirated radiation shield at each tower level. The sensors are of the Model 840 by MRI. The aspirated shielded housing is designed to provide maximum radiation protection to the sensor. The temperature sensor provides a linear resistance change with an air temperature change. The specifications on the sensing elements are as follows:

- Precision: ± 0.1°C
- Range: -30°C to +50°C

Delta Temperature

Measurements of temperature differences (ΔT) are taken for the 10 m to 60 m layer by using the MRI Model 840 systems. Both of the ΔT thermistors are mounted within power-aspirated radiation shields. The specifications on the ΔT equipment are as follows:

- Precision: ± 0.2°C
- Range of ΔT Circuit: -5°C to +5°C

Relative Humidity

The relative humidity is monitored by using a WeatherMeasure H324–S hair hygrograph. It uses the time-tested human hair bundle as the sensor for relative humidity. The precision and range are as follows:

- Precision: ± 1% from 20% to 80%; ± 3% at extremes
- Range: 0 - 100%

Barometric Pressure

The barometer is the B242 Analog Output Barometer by Weather-Measure. This barometer provides an output voltage that is linearly proportional to pressure. The specifications on the instrument are as follows:

- o Precision: ± 1 mm Hg
- o Range: 550-627 mm Hg

Solar Radiation

The pyranometer at the site is the Eppley Precision Spectral Pyranometer. This instrument is used for the measurement of sun and sky radiation totally or in defined wavelength bands. The pyranometer is levelled and mounted atop a wooden stand 1 meter from the ground surface. Care has been taken to eliminate the effects from all outside influences, such as reflection or shadows, on the pyranometer. The instrument characteristics are as follows:

- o Precision: ± 0.05 cal/cm^2/min
- o Range: 0-2 cal/cm^2/min

o Site 020

Wind Speed and Direction

The wind speed and direction apparatus used is the Model W1034 Low Threshold Recording Wind System by WeatherMeasure. The specifications are as follows:

Wind Speed

- o Starting Threshold: 0.6 mph
- o Distant Constant: 5 feet
- o Precision: ± 0.2 mph or 1% (whichever is greater)

Wind Direction

- Starting Threshold: 0.75 mph
- Distance Constant: 3.5 feet
- Precision: ± 1° or 0.5% (whichever is greater)

Temperature

Same as described under Site 023, Temperature.

Mixing Height, Inversion Height, and Stability Type

An AeroVironment Model 300A acoustic radar is employed for the continuous measurement of the atmospheric mixing height, inversion height, and stability type. An acoustic enclosure is used to surround the antenna and thereby reduce any spurious noise received in the antenna side lobes. The specifications of the acoustic sounder are as follows:

- Precision: ± 10 m
- Range: 30-500 m

A value of OS on the data sheets indicates that the mixing height is at least 500 meters (the full scale of the instrument).

- Sites 042 and 056

Wind Speed and Direction and Temperature

The wind speed, wind direction, and temperature equipment employed is the Model 1071 Mechanical Weather Station manufactured by Meteorology Research. The equipment specifications are as follows:

Wind Speed

- Starting Threshold 0.75 mph
- Response distance: 18 ft (63% recovery)

- Flow Coefficient: 7.9 ft/revolution
- Precision: ± 2%

Wind Direction

- Starting Threshold: 0.75 mph
- Delay Distance: 4 ft (50% recovery)
- Damping Ratio: 0.5 to 0.6
- Precision: ± 1% of full scale
- Range: 0° to 540°

Temperature

- Precision: ± 2°C
- Range: -35°C to 49°C

- Miscellaneous

Upper Air Wind Speed and Direction, and Temperature

The upper air wind speed and direction as a function of altitude are measured by tracking a pilot balloon by use of the double-theodolite technique. The theodolites used are manufactured by Warren-Knight. The specifications are as follows:

- Precision: ± 0.1° (elevation)
  ± 0.1° (azimuth)
- Range: 0-90° (elevation)
  0-360° (azimuth)

The upper air temperature as a function of altitude is obtained by attaching a temperature-sonde to a pilot balloon, and the signal transmitted from the temperature-sonde is monitored by using a radio receiver. The temperature-sonde is manufactured by Aeromet. The specifications are as follows:

- Precision: ± 0.4°C (-40 to -5°C)
  ± 0.2°C (-5 to 80°C)
- Range: -40 to +80°C

The radio receiver is also manufactured by Aeromet. Its specifications are as follows:

- Precision: ± 0.2°C
- Range: -50 to +50°C

- Calibration

Calibration of meteorological equipment is done off-site. The wind sensors are calibrated by use of an NBS traceable wind tunnel, the temperature sensors by use of an NBS traceable thermometer, and the pressure sensors by use of an NBS traceable mercury barometer. The relative humidity sensor is calibrated by using a sling psychrometer.

Daily check of the meteorological equipment is performed by comparing the monitored data with that of the local weather service when applicable. Also, the data obtained from the different levels of the 60-meter tower is compared for consistency check.

1.3 Data Description

1.3.1 Description of Data Tables

The data tabulations contain average values for each day, and the peak hourly average for the day. Along the bottom, the average for each hour, averaged over the month, is compiled. For these particular averages, there is no minimum data requirement (those averages are contained in Volume II). If a substantial amount of data is missing for any reason, the averages would be biased. Air quality is given in µg/m^3 usually, with values for NO_x computed on the basis of the molecular weight of NO_2, and those for HC and THC based on the molecular weight for CH_4.

On the wind direction sheets, "PV" and "PREV" indicate prevailing wind direction divided into 16 sectors with a "1" indicating a prevailing direction between 348.5 and 11.0 degrees, a "2" corresponding to 11.5 to 34.0 degrees, and so forth. (i.e., a "1" indicates wind from the 22.5° sector centered on N, a "2" indicates winds generally from the NNE, and "3" from the NE, etc.

Symbols used on the data sheets are:

CA	Calibration
MT	Maintenance (changing paper, tape, filters)
FO	Flame out (on the gas chromatographs)
IM	Instrument malfunction
PF	Power failure (generator failure, power outages)
RF	Recording system failure (chart jams, runs out, tape cassette fails, on-site computer goes down)
LI	Local interference (Car nearby, contamination by generator)
OS	Off scale (at top of chart data valve greater than range of instrument)
SE	Special experiment (instrument off-line for bag sample analysis or removed for special measurements in area.
VA	Variable wind direction
IN	Interference (CO_2 interference on sulfur data, SO_2 inteference in oxidant readings)
NV	Not visible (data not visible, within range of instrument/recorder; data presumed monitored)

See the attached example sheets.

1.3.2 Data Acceptance Algorithm

The EA chart recorder logs data once every 2-1/2 minutes giving about 24 values per hour. Strip chart data is considered to represent the hour if more than 30 minutes of the record is valid

Data collected in the first 15 minutes after calibration is generally discarded. Data is considered erroneous if any of the status indication or the station log suggests instrument malfunctioning. In addition, air quality data collected in the first 15 minutes after a brief power outage (less than 10 minutes), in the first hour after a medium duration outage (up to one hour), or in the first four hours after longer outages, will be discarded as unreliable. Any anomalous data reflecting signal spikes or dropouts with a response rate faster than ascribable to atmospheric phenomena (e.g., a tripling of NO_x levels from one scan to the next, followed by a return to the old level on the succeeding scan) will be deleted as an artifice caused by the system.

As an additional check, the calibrated data is also screened manually. First, data is scanned to detect extreme values. When a spurious value is located, it will be checked for its validity. In all cases when invalidated data is deleted, a record of these deletions is maintained. Only the validated data will be reported.

1.3.3 Data Precision and Lower Detection Limit

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
		Air Quality		
SO_2	Meloy SA185-2A	10 $\mu g/m^3$	15 $\mu g/m^3$	15 $\mu g/m^3$
H_2S	Meloy SA185-2	6 $\mu g/m^3$	6$\mu g/m^3$	6 $\mu g/m^3$
NO	Monitor Labs 8440E	2 $\mu g/m^3$	5 $\mu g/m^3$	5 $\mu g/m^3$
NO_x	Monitor Labs 8400E	4 $\mu g/m^3$	5 $\mu g/m^3$	5 $\mu g/m^3$
NO_2	NO_x - NO	4 $\mu g/m^3$	6 $\mu g/m^3$	6 $\mu g/m^3$
THC	Bendix 8200	70 $\mu g/m^3$	70 $\mu g/m^3$	70 $\mu g/m^3$
CH_4	Bendix 8200	70 $\mu g/m^3$	70 $\mu g/m^3$	70 $\mu g/m^3$
NMHC	THC - CH_4	70 $\mu g/m^3$	90 $\mu g/m^3$	90 $\mu g/m^3$
CO	Bendix 8200	0.1 mg/m^3	0.1 mg/m^3	0.1 mg/m^3
O_3	Meloy OA 350-2	2 $\mu g/m^3$	20 $\mu g/m^3$	20 $\mu g/m^3$
TSP	GMWC-2000H	0.5 $\mu g/m^3$	6% or 1 $\mu g/m^3$*	1 $\mu g/m^3$
		Meteorology		
Wind Speed	MRI 1074-2 (Site 023, 10m, 30m, 60m)	0.5 m/s	1% or 1 m/s*	1 m/s
	MRI 1071 (Site 042, 056)	0.5 m/s	2% or 1 m/s*	1 m/s
	Weathermeasure W1034 (Site 020)	0.5 m/s	1% or 1 m/s*	1 m/s
Wind Direction	MRI 1074-2 (Site 023, 10m,30m,60m)	N/A	1%	N/A
	MRI 1071 (Site 042, 056)	N/A	5°	N/A

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
		Meteorology (Cont'd)		
Wind Direction	Weathermeasure W1034 (Site 020)	N/A	1°	N/A
Temperature	MRI 840(Site 023)	-50°C	1°C	-50°C
	MRI 1071 (Site 042,056)	-35°C	1°C	-35°C
Delta Temperature	MRI 840	N/A	0.2°C	N/A
Relative Humidity	Weathermeasure H324-S	3%	1% (20-80%) 3% (at extremes)	3%
Barometric Pressure	Weathermeasure B 242	462 mm Hg	1 mm Hg	462 mm Hg
Solar Radiation	Eppley Spectral Pyranometer	0.05 $cal/cm^2/min$	0.05 $cal/cm^2/min$	0.05 $cal/cm^2/min$
Mixing Height Inversion Height Stability Type	AV 300A Acoustic Radar	30 m	10 m	30 m

*whichever is greater

1.3.4 AV Nomenclature for Components

Abbreviation (alphabetical order)	Component
BARP	Barometric Pressure
CH4	Methane
CO	Carbon Monoxide
DT2	Delta T#2 (Temperature at 60 m - Temperature at 10 m)
HC	Hydrocarbons (corrected for methane)
H2S	Hydrogen Sulfide
INV	Invension Height
MIX	Mixing Height
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOX	Oxides of Nitrogen
O3	Ozone
PART	Particulates (24 hour average)
RH1	Relative Humidity at level 1 (1 m/3 ft.)
SOLR	Solar Radiation (sky only)
SO2	Sulfur Dioxide
STB1	Stability Type at level 1 (50 m)
STB2	Stability Type at level 2 (200 m)
TEM2	Temperature at level 2 (10 m/30 ft.)
TEM3	Temperature at level 3 (30 m/100 ft.)
TEM4	Temperature at level 4 (60 m/200 ft.)
THC	Total Hydrocarbons
WD2	Wind Direction at level 2 (10 m/30 ft.)
WD3	Wind Direction at level 3 (30 m/100 ft.)
WD4	Wind Direction at level 4 (60 m/200 ft.)
WS2	Wind Speed at level 2 (10 m/30 ft.)
WS3	Wind Speed at level 3 (30 m/100 ft.)
WS4	Wind Speed at level 4 (60 m/200 ft.)

1.5.4

▨ = Final Output

Final Data Summary Sheet

Project 176

Date

	1977				1978											
	SEP	OCT	NOV	DEC	JAN.	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SITE 020																
WS1 (10 m)								▨								
WD1 (10 m)								▨								
MIX								▨								
INV								▨								
STAB1 (50 m)								▨								
STAB2 (200m)								▨								
PART								▨								
SITE 023																
WS2 (10 m)								▨								
WS3 (30 m)								▨								
WS4 (60 m)								▨								
WD2 (10 m)								▨								
WD3 (30 m)								▨								
WD4 (60 m)								▨								
TEM2 (10m)								▨								
TEM3 (30m)																
TEM4 (60m)																
DT2 (60 - 10m)								▨								
RH1 (1 m)								▨								
BARP								▨								
SOLR								▨								
NO								▨								
NO2								▨								
NOX								▨								
O3								▨								
SO2								▨								
H2S								▨								
CO								▨								
CH4								▨								
HC								▨								
THC								▨								
PART								▨								
PIBAL								▨								
SITE 042																
WS1 (10 m)								▨								
WD1 (10 m)								▨								
PART								▨								
TEMP								▨								

■ = Final Output

Final Data Summary Sheet

Project 176
Date

	1977				1978											
	SEP	OCT	NOV	DEC	JAN.	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SITE 056																
WS1 (10 m)								■								
WD1 (10 m)								■								
PART								■								
TEMP								■								

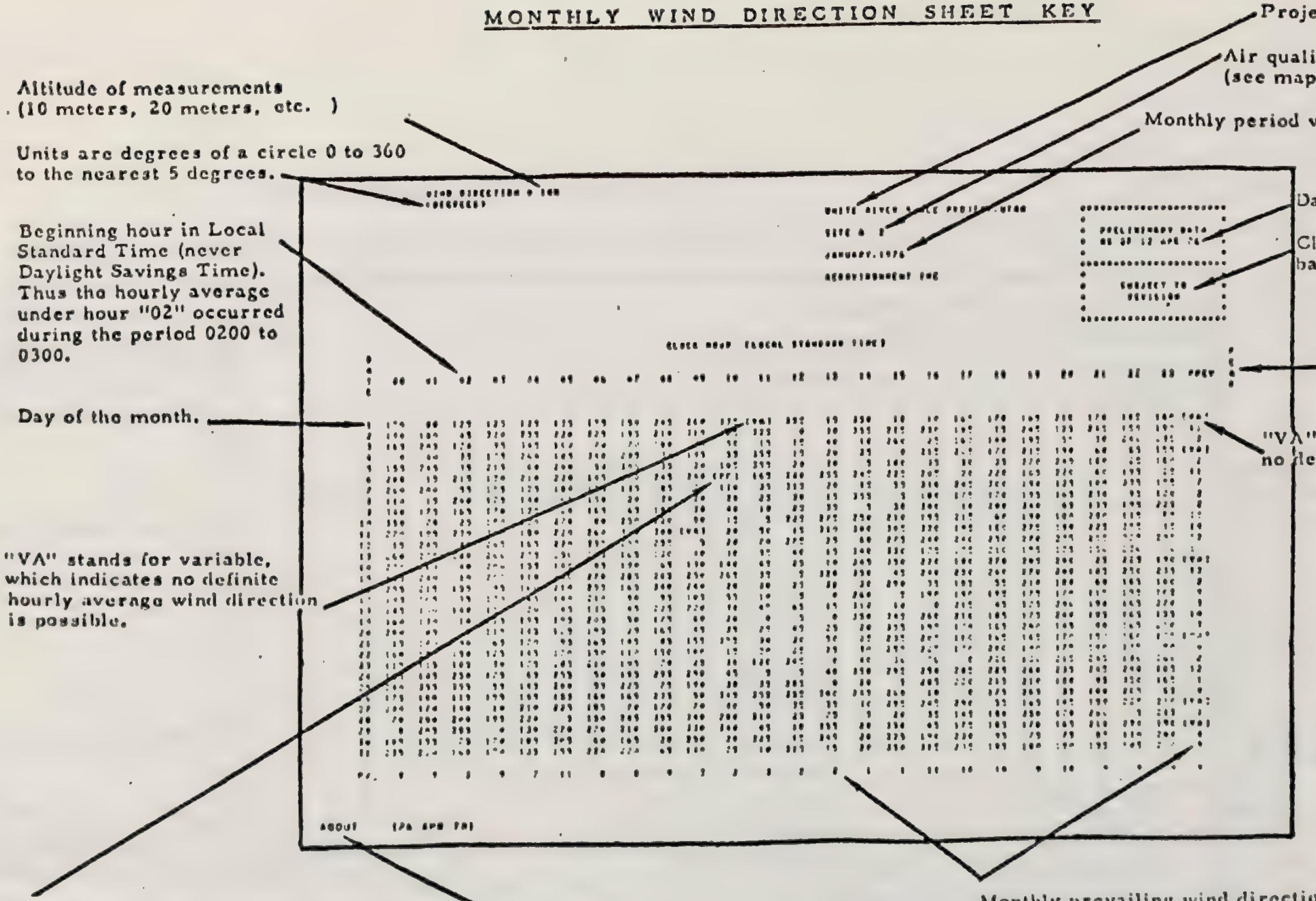
1.4 Descriptive Regional Meteorological Summary

April 1978

Although the storm tracks remained essentially the same, the intensity and number of low pressure systems decreased. There were three generally short periods of rain and hail with moisture somewhat above normal.

The same general pattern of warmer than normal average nighttime temperatures with cooler than normal daytime temperatures.

MONTHLY WIND DIRECTION SHEET KEY



Project location

Air quality site number. (see map for location)

Monthly period which the data covers.

Date that the data was printed.

Changes may still be made to the data, based on later inputs.

Peak column is not used

"VA" stands for variable, which indicates no definite prevailing wind direction.

Altitude of measurements (10 meters, 20 meters, etc.)

Units are degrees of a circle 0 to 360 to the nearest 5 degrees.

Beginning hour in Local Standard Time (never Daylight Savings Time). Thus the hourly average under hour "02" occurred during the period 0200 to 0300.

Day of the month.

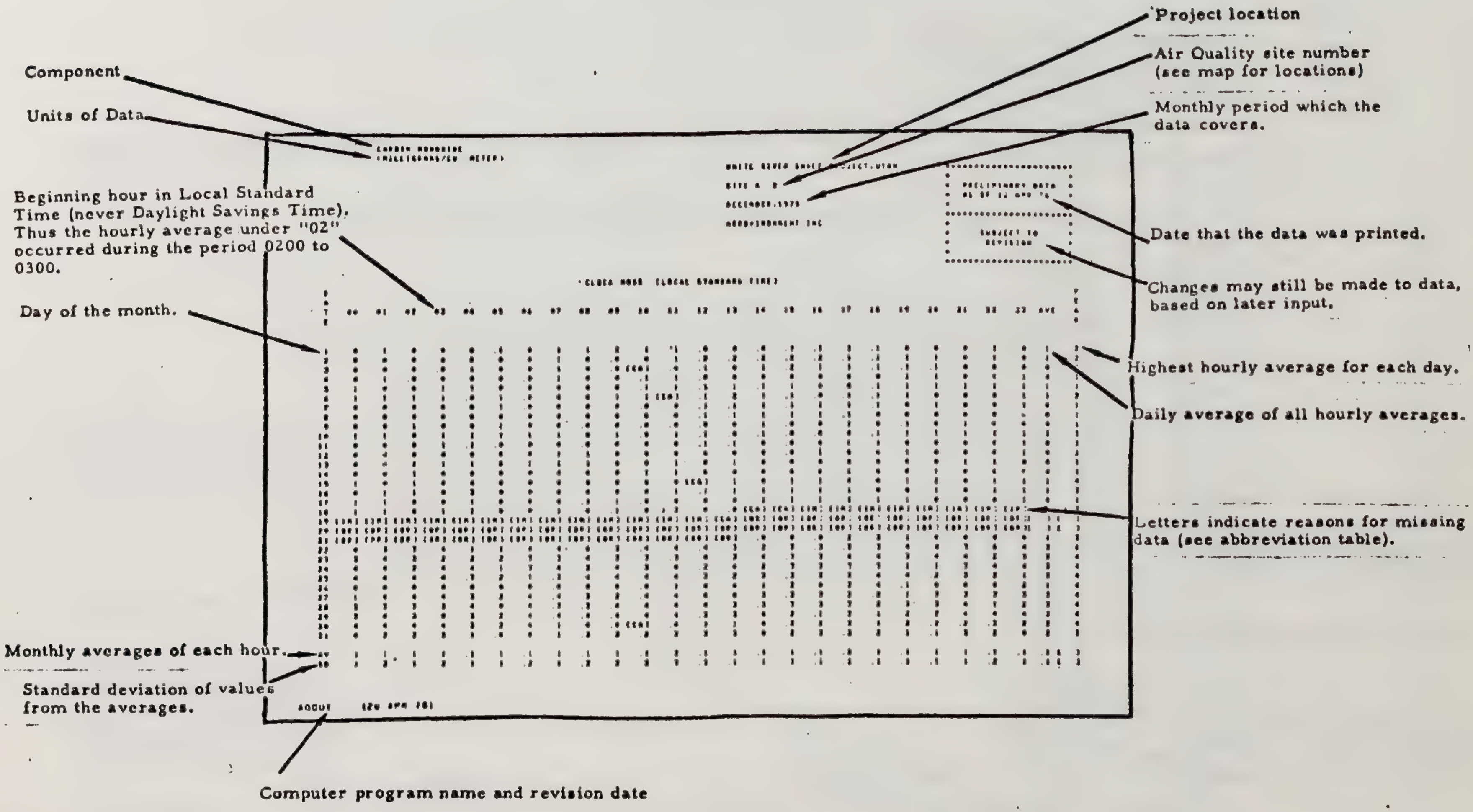
"VA" stands for variable, which indicates no definite hourly average wind direction is possible.

Malfunction code indicates reason for missing data (see abbreviation table).

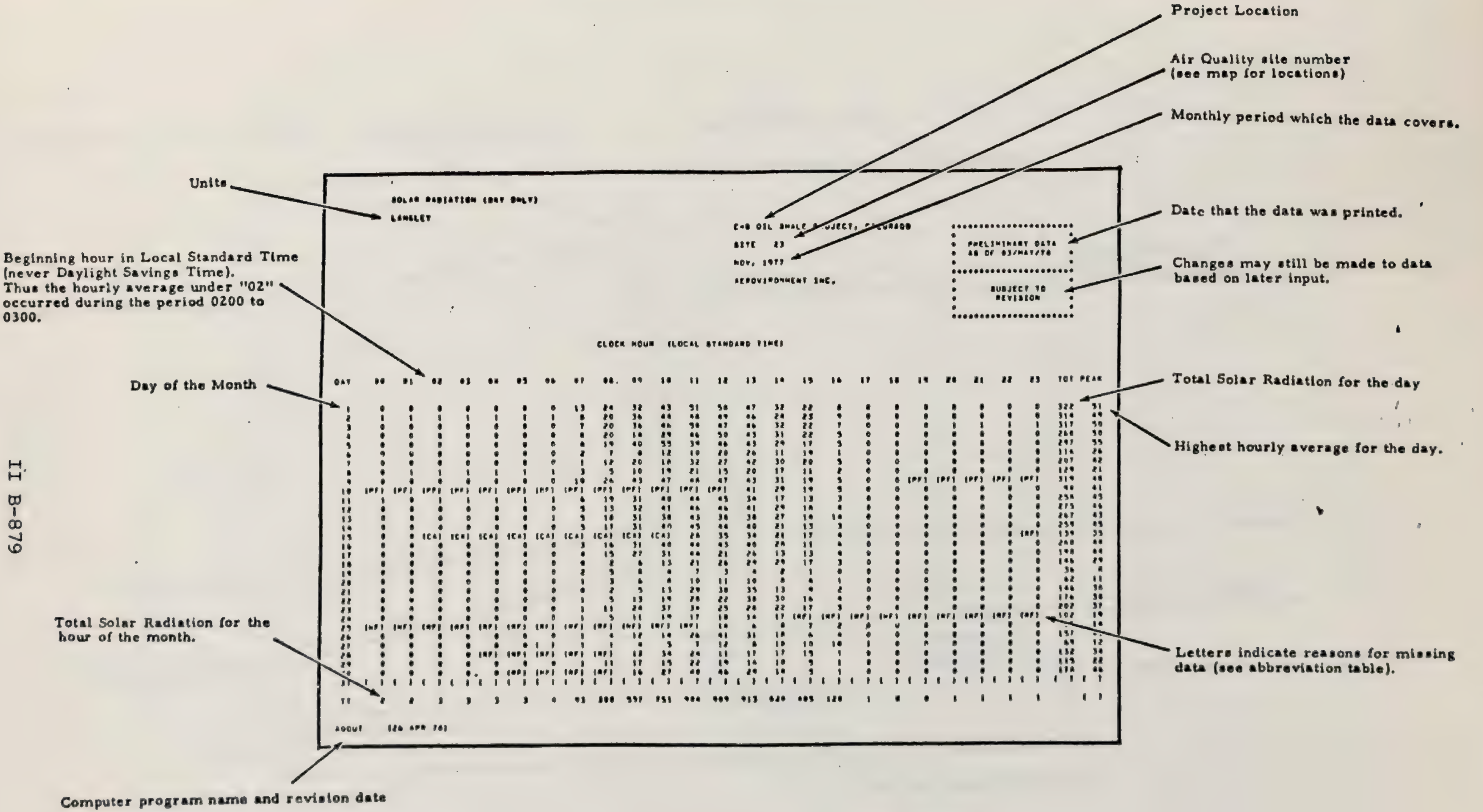
Computer program name and revision date

Monthly prevailing wind direction is divided into 16 sectors. Sector "1" indicates a prevailing direction between 348.5 and 11.0 degrees (22.5 degree sector) centered on North, Sector "2" corresponds to 11.5 to 34.0 degrees, centered on the NNE, etc.

MONTHLY COMPONENT SHEET KEY


Project location
Air Quality site number (see map for locations)
Monthly period which the data covers.
Component
Units of Data
CARBON MONOXIDE
(MILLIGRAMS/CU METER)
AEROVIRONMENT INC
PRELIMINARY DATA
SUBJECT TO REVISION
Date that the data was printed.
Beginning hour in Local Standard Time (never Daylight Savings Time). Thus the hourly average under "02" occurred during the period 0200 to 0300.
CLOCK HOUR (LOCAL STANDARD TIME)
Changes may still be made to data, based on later input.
Day of the month.
Highest hourly average for each day.
Daily average of all hourly averages.
Letters indicate reasons for missing data (see abbreviation table).
Monthly averages of each hour.
Standard deviation of values from the averages.
Computer program name and revision date

MONTHLY SOLAR RADIATION SHEET KEY


Project Location
Air Quality site number (see map for locations)
Monthly period which the data covers.
Units
Date that the data was printed.
Beginning hour in Local Standard Time (never Daylight Savings Time). Thus the hourly average under "02" occurred during the period 0200 to 0300.
Changes may still be made to data based on later input.
Day of the Month
Total Solar Radiation for the day
Highest hourly average for the day.
Total Solar Radiation for the hour of the month.
Letters indicate reasons for missing data (see abbreviation table).
Computer program name and revision date

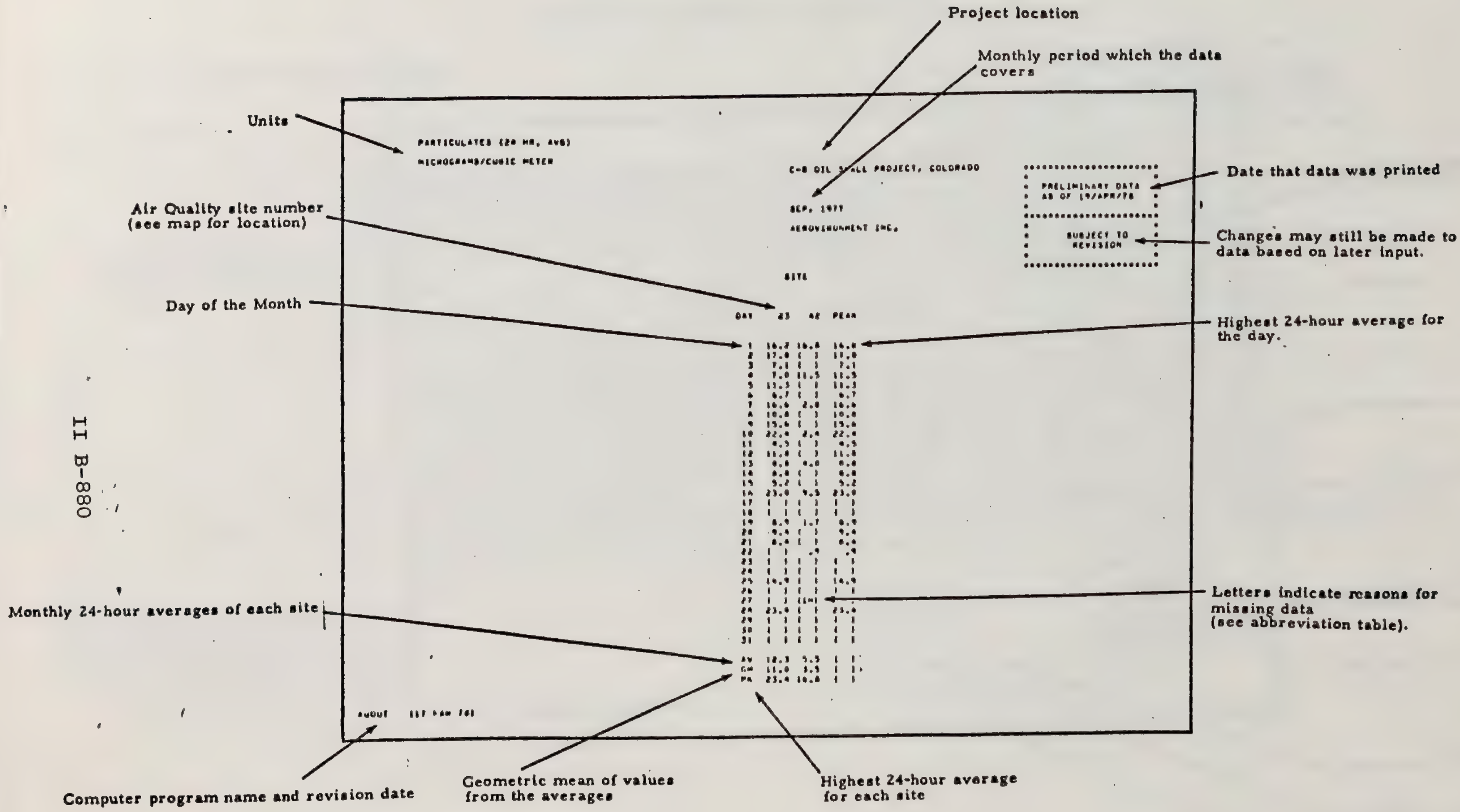
```
SOLAR RADIATION (DAY ONLY)
LANGLEY
                                   C-B OIL SHALE PROJECT, COLORADO     PRELIMINARY DATA
                                   SITE   23                           AS OF 03/MAY/78
                                   NOV, 1977
                                   AEROVIRONMENT INC.                  SUBJECT TO
                                                                        REVISION

                         CLOCK HOUR  (LOCAL STANDARD TIME)

DAY  00  01  02  03  04  05  06  07  08  09  10  11  12  13  14  15  16  17  18  19  20  21  22  23  TOT PEAK
  1   0   0   0   0   0   0   0  13  24  32  43  51  58  47  32  22   8   0   0   0   0   0   0   0  322  51

AQOUT    (26 APR 78)
```

MONTHLY PARTICULATES SHEET KEY



PARTICULATES (24 HR. AVG)
MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SEP, 1977

AEROVIRONMENT INC.

PRELIMINARY DATA
AS OF 19/APR/78

SUBJECT TO
REVISION

SITE

DAY 23 42 PEAK

Project location

Monthly period which the data covers

Units

Date that data was printed

Air Quality site number (see map for location)

Changes may still be made to data based on later input.

Day of the Month

Highest 24-hour average for the day.

Letters indicate reasons for missing data (see abbreviation table).

Monthly 24-hour averages of each site

Computer program name and revision date

Geometric mean of values from the averages

Highest 24-hour average for each site

SECTION 2.0

METEOROLOGY

WIND SPEED

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-8 OIL SHALE PROJECT, COLORADO

SITE 20

APR, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*  AS OF 07/JUL/78   *
*                    *
**********************
```

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	1	4	4	2	1	2	2	4	4	3	3	2	2	5	4	3	4	3	3	3	3	2	1	2	3	5
2	2	1	2	2	3	3	2	3	3	4	5	4	4	4	4	4	3	3	1	3	3	3	2	2	3	5
3	1	1	1	0	1	0	0	1	1	2	2	2	3	2	2	3	4	2	1	1	1	2	2	3	2	4
4	2	3	3	3	2	2	3	3	3	6	7	7	7	5	5	4	4	2	2	1	2	3	3	3	4	7
5	2	2	3	2	1	1	1	1	0	1	4	3	1	2	3	3	2	2	2	2	1	2	1	2	2	4
6	2	3	3	3	4	4	2	1	3	5	5	4	5	4	5	4	3	1	1	3	4	4	4	4	3	5
7	3	5	6	5	4	2	2	3	6	7	7	7	7	7	8	8	5	3	1	3	3	3	3	1	5	8
8	2	1	2	2	1	1	2	2	2	2	2	3	4	3	3	4	3	2	2	2	2	1	2	2	2	4
9	1	1	1	1	0	1	0	2	3	4	4	3	4	4	5	4	4	4	2	1	1	1	1	1	2	5
10	0	2	2	2	1	1	2	1	2	4	4	4	4	4	4	4	4	4	2	1	1	1	1	1	2	4
11	2	2	2	3	4	2	4	2	4	4	5	4	4	5	6	5	5	5	2	2	2	2	2	3	3	6
12	2	1	1	2	2	1	1	1	2	2	3	3	4	7	8	6	5	4	2	1	2	2	2	3	3	8
13	3	3	2	1	1	1	1	1	1	1	4	4	5	5	7	5	3	6	4	1	1	1	3	2	3	7
14	1	1	1	1	2	1	0	1	2	4	5	6	6	5	5	5	4	3	2	2	3	3	3	4	3	6
15	2	2	2	2	4	3	3	4	4	4	5	4	4	4	5	5	5	4	2	1	2	2	2	2	3	5
16	3	4	5	4	4	2	3	6	7	7	7	7	8	9	5	5	3	3	3	2	1	3	2	1	4	9
17	1	1	1	1	1	1	[IM]	[IM]	6	5	5	9	7	7	6	5	5	5	5	6	5	4	3	3	4	9
18	1	2	2	2	2	2	3	2	1	2	3	4	4	5	5	4	5	4	2	2	1	2	2	2	3	5
19	2	3	1	2	2	1	2	2	0	1	1	2	2	3	3	3	4	2	1	1	1	1	1	2	2	4
20	2	2	2	2	4	4	4	4	3	4	4	4	5	5	5	5	4	4	2	1	2	3	4	3	3	5
21	2	3	3	2	4	2	2	6	6	7	7	7	8	6	2	2	4	4	2	2	[IM]	[IM]	[IM]	[IM]	4	8
22	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	1	4	4	4	4	5	6	6	6	4	4	3	1	1	1	1	1	3	6
23	2	2	2	2	4	3	3	3	1	3	6	5	8	9	8	4	3	4	4	1	2	2	2	2	4	9
24	2	2	2	3	2	3	3	2	1	1	1	2	4	4	3	3	3	2	2	1	2	2	2	1	2	4
25	2	2	3	2	2	1	1	1	3	3	4	7	7	7	6	5	6	5	4	2	2	3	2	2	3	7
26	3	3	3	1	1	2	2	6	6	7	6	7	7	6	7	6	6	4	3	1	2	2	1	1	4	7
27	3	1	1	1	2	2	1	3	4	4	4	5	5	3	4	6	6	3	3	1	2	2	2	3	3	6
28	3	2	2	2	2	2	3	2	2	4	6	7	6	6	6	7	6	5	4	1	1	1	1	1	3	7
29	1	2	1	1	1	2	1	1	1	2	4	4	3	3	5	2	2	4	3	1	2	1	1	1	2	5
30	1	1	1	1	1	3	3	3	4	4	3	4	4	4	4	4	4	2	2	4	3	3	4	5	3	5
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	2	2	2	2	2	2	2	2	3	4	4	5	5	5	5	4	4	3	2	2	2	2	2	2	3	[ ]
SD	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	[ ]

AQOUT [15 MAY 78]

WIND SPEED AT LEVEL 2

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 07/JUL/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	1	3	3	1	1	3	3	4	4	3	3	4	4	4	5	5	2	3	4	3	1	1	2	3	3	5
2	4	4	3	4	4	4	2	3	7	4	5	5	5	7	6	5	4	4	4	5	4	5	5	2	4	7
3	1	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	0	0	1	2	4	2	4	5	5	4	3	3	2	2	5	3	3	5
4	2	3	3	2	3	3	3	3	4	8	7	8	7	7	7	6	6	4	1	1	2	3	7	7	4	8
5	5	5	3	2	1	1	0	1	1	2	3	3	2	2	4	2	3	2	2	3	1	1	3	2	2	5
6	1	1	2	4	2	6	8	7	8	5	7	6	6	6	5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	5	8
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	10	7	6	4	3	3	4	5	4	4	5	10
8	4	1	2	2	1	1	1	1	2	3	3	3	4	4	4	6	4	3	2	3	1	1	2	2	2	6
9	1	1	1	1	2	1	1	4	5	5	5	5	4	6	6	7	5	6	5	3	1	1	1	0	3	7
10	1	1	1	1	1	1	1	1	2	3	4	5	3	4	4	4	4	4	2	3	3	1	1	2	2	5
11	1	1	1	1	1	2	1	5	5	6	6	5	6	6	8	8	7	8	6	4	4	4	4	3	4	8
12	2	1	2	1	1	1	1	2	1	1	2	3	3	4	6	4	4	4	3	1	1	2	2	1	2	6
13	0	0	1	2	2	1	1	1	1	2	3	8	8	7	7	6	4	6	4	1	1	1	2	2	3	8
14	1	1	1	1	1	1	1	1	5	8	7	7	6	6	6	7	6	5	4	3	3	3	2	3	4	8
15	2	4	4	5	6	6	6	4	5	6	6	4	7	7	6	7	7	5	3	2	3	2	4	4	5	7
16	4	4	4	6	6	5	6	8	9	9	10	9	12	9	9	10	6	4	4	1	2	4	3	3	6	12
17	3	1	1	1	2	2	1	4	4	4	5	7	6	6	7	5	8	6	5	5	4	4	4	3	4	8
18	2	1	1	1	1	2	1	1	2	2	2	4	5	5	4	5	6	4	3	1	2	1	1	0	2	6
19	1	2	2	0	0	1	1	1	1	1	2	3	2	3	3	3	3	3	2	2	1	1	1	1	2	3
20	1	1	0	1	1	1	1	2	4	5	6	5	7	6	7	6	7	5	4	3	4	4	5	5	4	7
21	3	4	4	2	4	5	6	7	8	9	8	8	7	4	4	5	4	4	3	3	1	1	2	1	4	9
22	1	1	1	1	2	2	2	3	4	3	4	3	4	4	5	5	6	6	5	3	3	2	1	2	3	6
23	2	2	1	1	1	1	1	3	4	5	4	4	5	4	4	4	4	4	4	3	2	2	2	1	3	5
24	2	2	1	1	1	1	1	1	1	2	2	2	4	3	4	3	1	2	3	2	1	0	1	1	2	4
25	1	1	1	1	1	1	1	1	2	3	5	9	8	6	7	7	7	7	6	4	2	3	3	2	4	9
26	4	4	4	6	4	5	4	6	6	8	8	8	8	8	8	8	6	4	4	2	1	1	1	1	5	8
27	2	1	1	3	1	2	1	2	6	5	5	6	8	4	5	6	6	4	4	3	1	1	0	1	3	8
28	2	1	1	1	1	2	2	1	2	4	4	4	5	4	4	5	5	4	4	2	1	1	2	1	3	5
29	2	1	1	1	1	1	1	1	1	1	1	1	2	1	4	5	2	4	1	1	2	1	2	1	2	5
30	0	0	1	2	1	3	4	4	5	5	4	5	4	4	4	4	4	4	2	3	4	4	4	3	3	5
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	2	2	2	2	2	2	2	3	4	4	5	5	5	5	6	6	5	4	3	3	2	2	3	2	3	( )
30	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	2	1	1	( )

AQOUT (15 MAY 78)

WIND SPEED AT LEVEL 3

METERS/SECOND
LEVEL HEIGHT : 30 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 07/JUL/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	2	5	5	2	2	3	4	5	5	4	4	4	4	5	6	8	3	5	5	4	2	2	2	4	4	8
2	4	5	4	4	4	4	3	4	8	6	6	5	6	8	7	7	6	4	5	7	5	7	6	2	5	8
3	2	1	2	3	1	1	2	2	1	1	1	1	5	2	5	5	6	5	4	4	4	4	7	4	3	7
4	3	4	4	4	4	4	4	3	4	9	8	8	8	8	8	7	7	6	2	1	2	4	8	8	5	9
5	7	6	4	3	2	2	1	1	1	3	4	3	2	3	4	3	4	2	2	5	2	1	5	3	3	7
6	2	1	4	5	4	6	10	9	8	6	8	8	7	7	8	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	6	10
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(HF)	(RF)	(RF)	(RF)	(RF)	12	9	8	5	4	4	6	6	6	6	7	12
8	6	3	3	2	1	2	1	2	3	4	3	4	4	5	5	6	4	3	3	4	2	1	3	3	3	6
9	2	1	1	1	2	3	1	4	6	6	6	6	5	6	7	8	8	7	6	4	2	2	1	1	4	8
10	1	1	1	1	1	1	1	1	2	3	4	5	5	5	4	4	5	4	3	4	4	3	1	3	3	5
11	2	2	1	1	4	4	3	7	6	7	6	6	6	8	9	8	8	8	8	6	4	5	4	4	5	9
12	3	1	2	2	1	1	1	2	1	2	3	3	4	5	6	6	5	4	4	2	2	2	2	2	3	6
13	1	1	2	2	2	2	1	1	1	2	5	8	8	8	8	6	4	7	5	2	2	2	3	3	4	8
14	1	1	1	2	1	1	1	1	7	8	9	8	6	7	7	7	8	5	6	4	4	5	4	4	4	9
15	3	5	5	6	8	8	7	5	6	7	7	4	8	8	7	9	8	6	4	4	4	4	5	6	6	9
16	5	5	5	7	8	7	7	9	9	10	10	8	11	10	8	9	7	5	4	2	2	4	3	(IM)	7	11
17	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	2	4	5	5	6	8	7	7	8	6	7	7	7	5	5	5	4	3	6	8
18	2	3	2	2	2	3	2	1	2	2	3	5	5	6	5	5	6	5	4	2	2	1	1	0	3	6
19	2	2	1	0	1	1	1	1	1	2	2	3	3	3	3	3	4	3	3	3	1	1	2	1	2	4
20	1	1	1	1	1	1	2	2	5	7	6	7	7	7	7	7	8	6	5	4	6	5	7	6	5	8
21	4	6	5	3	5	6	8	8	8	8	10	10	8	5	4	6	4	4	4	3	2	2	2	2	5	10
22	1	2	1	1	2	4	3	3	4	4	4	4	4	4	6	6	7	7	6	4	4	3	2	2	4	7
23	2	3	2	1	2	2	1	3	4	5	5	6	5	6	4	4	4	5	5	4	3	3	2	1	3	6
24	2	2	1	1	1	0	1	1	1	1	2	2	4	3	4	4	2	2	4	2	2	1	1	2	2	4
25	1	1	1	2	2	2	2	2	2	3	6	9	9	8	8	8	7	8	7	5	3	4	4	4	4	9
26	5	5	6	7	6	4	6	8	8	9	8	10	10	9	8	8	7	5	5	2	2	1	2	1	6	10
27	3	1	1	3	2	3	2	2	8	8	6	7	9	4	5	7	8	4	4	4	2	2	1	1	4	9
28	2	1	1	3	3	3	3	2	3	4	4	5	6	4	5	5	5	4	4	3	2	1	2	1	3	6
29	2	1	1	1	1	1	1	1	1	1	2	3	2	1	4	5	2	2	4	1	1	2	1	2	2	5
30	2	1	0	1	3	1	3	4	4	5	5	6	4	5	4	4	4	4	2	3	5	5	5	4	3	6
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	3	3	2	3	3	3	3	3	4	5	5	6	6	6	6	6	6	5	4	4	3	3	3	3	4	( )
SD	2	2	2	2	2	2	2	3	3	3	2	2	2	2	2	2	2	2	1	1	1	2	2	2	1	( )

AQOUT (15 MAY 78)

WIND SPEED AT LEVEL 4

METERS/SECOND
LEVEL HEIGHT : 60 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 07/JUL/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	3	4	4	2	2	3	6	6	6	4	4	4	5	6	6	9	4	6	5	5	2	2	2	5	4	9
2	6	7	4	6	4	4	4	4	8	6	6	6	6	9	8	7	6	6	6	8	6	8	7	3	6	9
3	2	2	3	3	1	1	2	2	1	1	1	1	5	2	5	6	6	6	4	5	5	6	7	4	3	7
4	4	4	4	4	5	5	5	4	4	9	8	10	9	9	8	7	7	6	2	1	2	4	10	11	6	11
5	8	7	4	3	2	2	2	2	2	4	4	4	2	3	4	3	4	3	3	7	2	2	6	3	4	8
6	3	2	4	6	4	7	11	10	8	6	8	8	8	7	8	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	7	11
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	11	9	9	5	4	5	7	7	7	8	7	11
8	7	4	3	2	1	2	2	2	3	4	3	4	5	5	5	7	5	4	3	4	2	1	3	4	4	7
9	2	2	1	1	2	3	1	5	6	7	7	7	6	8	8	8	8	8	6	4	2	2	2	1	4	8
10	1	1	1	0	0	1	1	1	3	4	5	6	4	5	5	4	5	4	3	4	6	3	1	3	3	6
11	3	3	2	2	5	5	4	7	7	8	7	6	7	8	9	9	8	8	8	6	5	6	5	4	6	9
12	4	1	2	2	1	1	1	2	1	2	3	3	4	5	6	5	5	4	4	3	3	3	2	2	3	6
13	1	2	2	1	3	2	1	0	1	2	5	9	8	8	9	6	4	7	5	2	2	2	3	3	4	9
14	1	1	1	1	1	1	0	1	6	8	9	8	6	7	7	8	8	5	6	4	4	4	4	4	4	9
15	4	6	6	8	8	8	8	6	6	8	8	4	8	8	7	8	8	6	4	3	4	4	5	6	6	8
16	5	5	5	8	8	7	8	9	10	11	11	9	12	11	8	9	7	5	5	2	3	5	3	4	7	12
17	4	2	1	2	2	3	2	4	5	4	5	8	8	7	7	6	9	8	6	7	6	5	5	5	5	9
18	3	2	4	3	3	4	3	1	2	2	3	4	5	5	4	5	7	5	4	3	2	1	1	1	3	7
19	1	1	0	1	0	0	1	0	1	2	2	3	2	3	3	4	4	2	3	3	1	1	1	1	2	4
20	1	1	0	0	1	0	2	1	5	7	7	6	7	7	8	7	8	6	5	5	6	5	7	7	5	8
21	5	7	6	3	6	7	8	9	9	10	11	9	8	5	5	6	4	4	4	3	2	2	2	3	6	11
22	1	2	2	2	3	4	4	3	4	4	4	4	5	5	6	6	6	7	7	5	4	3	2	2	4	7
23	1	3	2	1	1	1	3	3	4	6	5	6	6	6	4	4	4	5	5	4	4	3	3	1	4	6
24	1	2	1	1	0	0	1	1	1	2	2	2	4	3	4	3	2	2	4	2	2	0	1	1	2	4
25	1	2	1	3	2	1	2	2	2	3	6	10	9	8	8	8	8	8	7	7	3	4	4	5	5	10
26	6	7	8	8	7	5	7	8	8	10	10	10	10	10	9	8	8	5	5	2	2	1	1	1	6	10
27	3	1	1	3	2	2	2	2	8	7	6	7	9	4	7	7	7	5	5	5	3	2	1	2	4	9
28	2	2	2	4	4	4	3	3	3	4	4	5	5	5	5	6	5	5	5	4	3	1	2	2	4	6
29	1	1	0	1	1	1	0	1	1	1	2	3	3	1	4	5	2	2	2	1	1	3	2	3	2	5
30	2	1	0	1	3	2	3	4	5	5	5	6	4	5	4	4	4	4	2	3	5	7	7	4	4	7
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	3	3	3	3	3	3	3	4	4	5	6	6	6	6	6	6	6	5	5	4	3	3	4	4	4	( )
SD	2	2	2	2	2	2	3	3	3	3	3	3	2	2	2	2	2	2	1	2	2	2	2	2	2	( )

AQOUT (15 MAY 78)

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WIND SPEED

METERS/SECOND
LEVEL HEIGHT : 10 METERS                                  C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                               *                   *
                                                          SITE   42                            *    FINAL DATA     *
                                                                                               *  AS OF 07/JUL/78  *
                                                          APR, 1978                            *                   *
                                                                                               *********************
                                                          AEROVIRONMENT INC.


                                            CLOCK HOUR  (LOCAL STANDARD TIME)


DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23     AVE PEAK

  1  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
  2  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
  3  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
  4  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
  5  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)     4     4     4     4     2     1     2     2     2     2      3    4
  6     3     2     2     4     4     4     3     3     7     7     7     6     3     3     4     3     4     3     5    10    11    12    11     2      5   12
  7     2     3     3     3     4     3     4     5    11    10    11    11    10    10    11    10     8     5     3     3     6     6     5     5      6   11
  8     4     2     2     1     1     1     1     2     3     3     3     4     4     4     4     7     5     4     3     4     3     1     3     3      3    7
  9     2     1     0     1     3     2     1     5     4     0     5     5     6     6     4     8     6     8     7     4     3     1     1     1      3    8
 10     1     1     1     1     1     1     1     1     3     4     4     5     5     5     4     6     5     4     4     4     4     3     2     1      3    6
 11     2     2     1     3     2     3     3     3     5     6     8     7     7     7     7     8     8     7     9     7     5  (RF)  (RF)  (RF)      5    9
 12  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 13  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 14  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)     7     7     6     5     4     4     3     2     4      5    7
 15     2     2     2     4     7     6     6     5     4     7     7     5     7     7     7     7     7  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)      5    7
 16  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 17  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 18  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 19  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 20  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 21  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 22  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 23  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 24  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 25  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 26  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 27  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 28  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 29  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 30  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)    ( ) ( )
 31  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )    ( ) ( )

 AV     2     2     2     2     3     3     3     3     5     5     6     6     6     6     6     6     6     5     4     4     4     4     4     3      4 ( )
 SD     1     1     1     1     2     2     2     1     3     3     2     2     2     2     2     2     2     2     1     2     3     4     3     1      1 ( )

AQOUT    (15 MAY 78)
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WIND SPEED

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 56

APR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 07/JUL/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	2	2	2	1	1	2	2	3	2	3	2	4	2	2	4	3	2	4	3	2	4	2	1	1	2	4
2	2	1	1	2	2	2	2	2	2	4	4	6	3	3	5	4	3	2	1	1	2	1	1	1	2	6
3	2	1	1	1	1	(IM)	0	1	1	1	2	2	2	3	1	3	4	4	2	2	1	2	2	2	2	4
4	1	1	1	2	2	1	1	1	3	4	4	4	4	4	4	4	4	3	1	1	2	2	2	4	2	4
5	2	1	1	1	2	1	1	1	1	1	1	2	3	2	2	3	2	2	1	1	1	1	2	2	2	3
6	2	2	1	1	1	2	2	1	1	2	4	2	3	5	4	5	3	2	1	2	1	1	2	2	2	5
7	1	2	2	2	3	2	2	1	2	4	4	4	4	4	5	6	5	3	1	1	2	3	2	1	3	6
8	1	2	2	1	2	1	1	2	2	2	3	2	2	4	2	4	3	1	2	1	2	2	1	2	2	4
9	2	1	1	0	1	1	1	1	4	4	3	4	4	5	5	6	5	6	4	2	2	1	1	2	3	6
10	1	1	1	1	2	2	1	2	2	3	3	3	4	3	4	5	3	3	2	2	3	2	1	2	2	5
11	2	1	2	2	1	1	2	2	3	4	4	5	4	5	4	6	5	4	3	2	2	2	2	2	3	6
12	2	2	2	1	1	1	2	1	2	2	4	3	3	5	5	5	4	3	2	2	1	1	2	2	2	5
13	1	1	1	1	1	1	2	1	1	2	3	6	5	5	5	3	3	3	3	2	1	1	2	1	2	6
14	1	1	1	1	1	1	0	1	2	5	5	5	5	4	5	4	5	2	2	1	1	2	2	2	2	5
15	1	2	1	1	2	2	2	2	3	5	4	4	5	5	5	5	5	4	2	2	2	2	2	2	3	5
16	1	2	1	2	2	2	2	4	6	5	6	6	6	5	4	4	2	2	3	2	2	3	2	1	3	6
17	1	1	1	2	1	1	2	2	3	3	4	5	7	6	6	5	5	5	3	3	2	1	2	2	3	7
18	2	1	1	1	1	1	2	2	2	2	3	4	5	5	4	4	4	3	2	2	1	2	2	1	2	5
19	2	1	2	2	2	2	1	2	1	1	2	2	2	3	4	3	3	3	1	2	2	1	2	1	2	4
20	1	1	1	1	2	1	3	4	3	3	4	5	4	4	5	4	4	4	2	2	2	2	2	2	3	5
21	2	3	2	2	2	2	2	3	5	6	6	7	6	4	2	2	3	3	3	2	1	1	1	1	3	7
22	1	1	1	1	1	1	2	2	3	4	3	4	4	5	4	4	4	4	3	2	2	1	1	1	2	5
23	2	2	2	2	2	2	2	2	2	2	4	4	4	5	5	3	2	2	3	2	1	2	1	1	2	5
24	1	2	1	1	2	2	2	2	1	1	2	2	3	3	2	3	2	2	1	1	2	2	1	1	2	3
25	2	2	1	2	2	2	2	1	3	3	2	6	5	4	5	5	4	4	2	2	2	2	1	2	3	6
26	2	2	2	2	1	2	2	3	5	5	5	5	5	5	5	4	4	2	2	2	2	2	1	2	3	5
27	1	2	2	2	1	1	1	2	3	3	3	5	3	3	4	3	3	2	2	1	2	1	2	2	2	5
28	1	1	1	1	1	1	1	2	2	2	4	4	5	5	4	4	3	3	3	2	2	2	2	1	2	5
29	1	1	1	2	1	1	1	1	1	1	3	3	3	2	4	3	2	3	2	2	1	1	1	2	2	4
30	1	1	0	1	1	1	1	2	2	3	3	3	3	4	3	4	4	3	2	2	3	2	2	3	2	4
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	1	1	1	1	1	1	2	2	2	3	3	4	4	4	4	4	3	3	2	2	2	2	2	2	2	( )
SD	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0	( )

AQOUT (15 MAY 78)

WIND DIRECTION

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

APR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 07/JUL/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	70	100	100	100	100	280	285	125	105	105	100	65	150	125	110	255	55	75	115	80	95	90	120	85	5
2	140	100	155	75	170	75	80	90	155	175	175	190	160	165	165	190	100	130	135	120	135	140	70	105	7
3	270	[IM]	90	95	15	[CA]	370	295	5	270	285	260	295	320	115	200	200	190	155	85	95	100	115	120	5
4	110	115	110	120	110	105	110	120	105	130	145	145	145	155	190	175	195	165	345	65	95	125	120	110	7
5	150	130	300	295	295	50	115	140	30	5	295	20	160	280	[VA]	290	280	210	355	90	[VA]	110	105	115	[VA]
6	110	120	125	125	125	120	55	85	170	165	175	150	165	165	170	170	175	190	140	115	130	135	130	130	7
7	125	125	130	125	115	110	100	125	150	155	165	160	155	170	155	155	170	165	130	125	115	125	135	130	7
8	95	90	110	100	115	110	110	125	345	45	355	155	180	165	205	290	255	275	205	245	300	65	100	90	5
9	20	330	60	110	95	90	90	310	315	295	305	330	325	335	315	330	315	335	0	45	110	120	110	110	15
10	100	105	110	110	95	100	110	110	290	270	295	300	280	305	295	295	310	295	315	85	85	80	85	95	5
11	100	105	105	110	130	110	120	110	180	175	190	175	205	200	190	200	220	215	140	[VA]	270	260	265	355	6
12	[VA]	120	110	115	115	100	90	95	85	[VA]	280	290	300	295	300	285	290	290	295	295	350	110	110	110	6
13	140	140	130	[VA]	210	100	120	60	320	140	120	210	190	195	185	280	175	270	[IM]	65	[VA]	110	120	110	6
14	140	80	100	95	110	110	[VA]	10	[VA]	10	95	200	180	200	190	180	195	180	190	130	125	100	120	125	[VA]
15	85	95	90	80	120	125	130	150	165	190	190	130	195	205	195	185	220	205	180	75	95	100	100	110	5
16	125	130	135	125	130	20	140	165	175	165	190	170	170	170	165	210	195	190	290	295	[VA]	325	310	45	9
17	120	70	[VA]	110	70	125	90	300	275	285	280	285	300	320	330	305	295	325	300	285	290	295	290	330	14
18	65	115	105	105	115	105	120	125	50	310	305	275	290	290	300	310	300	305	335	75	100	100	105	105	6
19	115	120	95	95	105	100	105	120	120	140	10	315	[IM]	305	280	280	320	340	20	110	110	110	95	110	6
20	110	110	105	110	130	140	135	135	110	165	165	170	175	175	185	220	205	195	[VA]	120	115	130	120	125	7
21	110	110	120	115	135	110	120	140	165	220	270	310	295	285	10	125	[IM]	[IM]	25	[VA]	[IM]	[IM]	[IM]	95	6
22	110	120	110	135	135	130	110	100	280	[IM]	[VA]	[VA]	305	280	265	[IM]	[IM]	220	230	180	[VA]	[IM]	[IM]	[IM]	6
23	[IM]	110	110	110	135	135	135	130	[IM]	275	260	260	275	270	290	260	300	270	280	5	105	105	110	110	6
24	105	110	115	110	115	115	130	120	125	90	230	230	280	320	245	250	285	300	250	90	115	115	115	120	6
25	100	110	135	110	130	110	325	310	295	305	160	165	155	160	180	190	165	150	145	115	105	110	100	105	6
26	115	100	110	[VA]	90	105	115	150	180	185	190	165	190	180	165	180	260	245	245	110	120	75	65	75	9
27	110	135	120	110	110	110	80	335	280	320	290	[VA]	[VA]	165	260	270	275	280	255	80	60	120	120	125	6
28	140	125	130	120	110	120	130	125	310	285	290	285	285	290	285	285	290	280	285	90	110	110	110	110	6
29	110	120	110	100	110	115	110	110	305	290	275	280	265	105	305	85	70	10	10	20	110	115	100	110	6
30	100	40	95	100	100	130	100	110	160	210	190	5	260	310	315	300	305	355	0	130	110	120	115	110	6
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
PV	6	6	6	6	6	6	6	6	8	14	14	8	9	[VA]	9	14	14	9	7	5	6	6	6	6	6

AQOUT [15 MAY 78]

WIND DIRECTION AT LEVEL 2

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 07/JUL/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	[VA]	165	135	105	125	270	190	170	145	175	150	185	225	150	175	210	170	185	185	190	355	65	200	195	9
2	195	195	190	195	210	175	175	190	185	200	195	190	210	195	205	205	170	175	180	180	185	180	180	230	10
3	295	[IM]	[IM]	[IM]	[IM]	[IM]	250	250	320	250	260	245	235	300	215	220	220	205	175	185	200	185	180	165	11
4	145	130	125	125	130	150	145	140	145	175	170	175	180	185	195	205	210	195	140	140	170	175	185	185	9
5	185	195	310	290	285	170	210	250	240	300	290	10	5	250	295	270	215	210	230	205	300	185	195	180	10
6	160	130	165	165	105	170	175	180	185	185	185	185	190	190	210	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	9
7	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	185	190	205	205	190	175	175	180	185	185	9
8	205	200	100	210	245	310	280	55	45	35	25	210	185	190	205	240	240	285	245	190	265	145	135	130	10
9	110	[VA]	45	[VA]	255	330	230	340	350	345	340	355	0	5	355	0	350	0	10	10	105	310	255	300	16
10	230	225	205	220	230	210	85	300	300	310	315	345	330	335	330	310	345	340	305	195	200	220	190	210	[VA]
11	195	220	90	120	190	185	180	195	200	195	205	195	225	210	210	215	235	230	215	230	280	250	260	320	10
12	350	230	235	260	220	220	245	295	315	330	305	340	345	245	290	295	285	310	290	265	230	210	210	190	14
13	250	210	70	245	230	130	225	[VA]	20	105	185	210	195	215	190	195	225	205	310	85	220	145	175	120	10
14	190	150	245	205	175	160	190	350	205	210	215	205	205	220	210	215	215	195	190	180	175	185	200	135	10
15	255	190	185	190	180	185	185	185	205	215	215	195	205	215	215	210	210	205	200	200	195	190	180	180	10
16	175	150	135	180	185	180	185	205	195	205	215	195	185	185	200	225	230	220	285	25	280	320	315	[IM]	10
17	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	295	295	290	320	355	335	320	335	310	290	290	300	295	285	15
18	280	205	225	230	160	200	205	35	340	305	310	310	320	325	315	325	345	335	330	250	215	185	190	20	15
19	55	185	215	185	145	215	15	325	355	70	15	15	355	350	275	270	345	340	350	325	210	200	210	190	1
20	180	175	180	110	150	135	120	70	215	210	210	210	200	195	210	220	215	210	210	195	195	165	175	175	10
21	185	210	195	170	180	180	180	190	215	230	215	300	305	295	260	255	285	15	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	9
22	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	285	305	300	290	275	300	255	245	240	230	225	210	255	280	255	200	12
23	170	200	165	150	130	165	140	220	230	245	245	230	215	270	300	250	245	240	230	240	225	245	245	230	12
24	240	220	195	170	150	205	155	[VA]	15	325	335	260	355	35	315	15	240	255	210	230	215	195	205	180	10
25	170	90	185	150	165	110	130	105	130	135	185	205	205	205	210	220	205	205	190	175	140	150	165	175	9
26	175	170	175	190	185	170	175	185	195	200	210	195	205	205	195	205	225	240	240	210	270	190	195	235	10
27	265	185	275	255	280	245	245	290	255	220	220	215	250	210	235	250	240	255	250	230	205	200	165	220	12
28	180	220	185	210	220	225	210	250	275	285	295	285	300	285	275	270	275	285	290	275	215	230	280	260	13
29	235	240	185	230	240	180	175	300	330	285	330	355	310	175	165	350	65	15	260	75	105	150	105	170	9
30	135	145	30	180	135	[VA]	175	190	205	190	215	210	215	270	285	290	320	345	10	210	160	155	150	140	9
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
PV	9	10	9	9	9	9	9	9	10	10	11	10	10	10	10	11	11	10	11	10	10	9	9	9	10

AUOUT [15 MAY 78]

WIND DIRECTION LEVEL 3

DEGREES
LEVEL HEIGHT : 30 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*********************
*                   *
*    FINAL DATA     *
*  AS OF 07/JUL/78  *
*                   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	185	155	135	105	110	275	205	170	145	175	145	175	210	145	180	215	165	185	185	185	(VA)	75	185	195	9
2	195	190	200	210	215	170	185	200	185	195	190	190	210	195	200	200	180	180	180	170	180	180	180	225	10
3	285	125	155	255	305	(IM)	250	255	310	270	340	270	240	325	205	210	215	200	180	185	185	170	170	150	9
4	135	125	110	120	120	140	135	135	150	170	170	175	180	185	185	205	205	195	140	150	170	180	185	175	9
5	170	185	290	285	270	175	205	255	255	290	290	355	355	250	290	290	220	205	230	195	300	190	190	175	9
6	170	135	165	165	105	170	175	175	175	180	185	180	185	185	185	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	8
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	185	180	190	190	195	180	170	175	180	180	9
8	205	200	80	180	(VA)	300	315	55	35	25	30	205	185	175	215	230	235	280	240	185	245	130	120	110	11
9	85	320	300	(VA)	255	315	355	330	325	330	335	350	345	350	340	340	340	355	350	30	60	340	300	350	16
10	255	250	215	285	260	240	235	290	285	290	310	325	315	325	325	300	330	325	320	195	190	225	240	205	15
11	195	210	145	130	185	180	185	185	190	190	195	195	205	205	205	210	230	230	210	225	270	245	250	315	10
12	330	270	265	255	20	165	255	290	320	320	300	310	305	260	275	280	280	290	285	255	245	235	205	170	13
13	170	150	(VA)	245	215	135	125	220.	5	75	175	200	190	195	185	195	215	240	310	30	110	115	175	110	9
14	180	(IM)	145	205	185	140	180	290	185	200	205	195	190	210	210	210	210	190	205	175	170	175	195	145	10
15	215	180	175	180	175	180	180	180	200	210	205	175	205	215	210	200	205	195	180	185	180	180	170	165	10
16	160	135	120	170	175	170	175	180	180	180	215	195	180	185	200	215	220	220	285	15	285	315	310	260	9
17	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	285	270	300	285	285	310	355	325	295	330	300	285	275	285	285	270	14
18	280	230	240	240	170	205	200	345	340	285	295	295	300	315	315	320	325	320	315	325	335	185	165	160	15
19	355	115	255	315	50	15	0	265	5	15	350	355	345	350	270	270	320	330	350	320	20	165	170	190	1
20	150	150	55	90	120	105	105	80	200	205	210	210	195	195	210	215	205	210	205	195	185	150	165	165	10
21	185	210	195	170	175	170	170	190	200	225	210	295	300	280	255	255	270	5	30	350	85	160	205	255	9
22	255	330	230	240	215	240	245	240	270	265	295	280	265	240	240	235	230	225	215	210	250	265	260	235	12
23	145	180	220	105	100	120	150	225	225	240	225	225	225	270	255	250	240	240	225	250	230	250	275	255	12
24	255	230	205	180	90	315	90	45	10	320	335	340	345	15	300	15	250	270	210	230	235	230	165	(VA)	11
25	100	125	120	135	140	95	105	110	140	130	175	195	190	195	205	210	195	200	180	170	130	140	145	150	7
26	165	160	175	185	180	165	170	180	195	185	205	185	185	185	185	195	215	230	230	210	260	205	150	240	9
27	275	170	275	270	300	245	250	280	240	215	210	215	240	215	225	240	240	255	240	210	190	195	200	215	12
28	185	240	210	210	225	230	215	235	270	275	275	270	290	270	275	270	260	270	270	270	220	270	275	285	13
29	245	250	255	225	255	200	165	300	325	305	340	320	310	165	170	340	60	355	345	100	85	135	135	160	15
30	140	105	70	135	175	210	170	185	195	185	210	200	200	260	280	300	325	330	355	195	145	145	135	125	10
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
PV	9	9	10	9	9	9	9	9	9	9	10	10	10	10	10	11	11	10	10	10	9	9	9	8	10

AQOUT (15 MAY 78)

WIND DIRECTION AT LEVEL 4

DEGREES
LEVEL HEIGHT = 60 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 07/JUL/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	170	165	145	130	120	270	205	175	150	175	150	180	215	155	185	225	175	190	175	200	180	120	205	205	9
2	205	200	205	215	215	180	190	205	190	200	200	190	215	200	205	200	180	180	180	175	180	185	185	230	10
3	300	135	190	255	310	305	265	270	310	270	280	250	245	305	215	210	215	205	190	200	195	190	170	155	13
4	150	130	130	125	125	145	145	140	165	175	175	175	185	195	195	210	210	205	160	170	180	190	190	190	9
5	185	200	295	295	285	195	215	240	255	305	305	0	355	270	300	285	225	210	225	210	300	205	205	180	10
6	190	145	175	160	135	170	175	180	190	190	190	190	200	200	205	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	9
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	195	195	200	200	200	180	170	175	180	190	9
8	210	205	70	190	270	325	325	60	40	35	30	225	200	185	225	240	240	300	240	200	240	25	105	120	10
9	65	10	295	290	270	325	25	340	335	335	340	355	345	345	345	345	345	355	0	35	60	355	315	345	16
10	305	310	285	325	295	275	265	285	300	310	320	340	335	330	325	310	330	325	305	210	205	235	250	215	15
11	205	205	200	190	200	195	205	195	200	195	200	200	225	210	205	210	225	225	210	225	275	245	260	325	10
12	350	300	290	30	20	40	260	300	325	330	310	310	325	270	285	290	290	300	290	290	275	255	215	185	14
13	205	170	205	290	245	130	105	150	20	70	190	205	200	200	195	200	220	250	310	30	110	115	175	125	10
14	170	150	130	205	165	140	180	190	195	205	210	205	200	225	210	215	220	195	210	180	175	190	210	165	10
15	210	185	175	185	180	180	190	190	205	215	210	180	205	210	210	210	205	200	195	180	190	190	180	165	9
16	150	135	145	180	180	175	185	200	180	190	215	205	190	190	200	215	230	225	295	350	265	315	305	265	9
17	225	265	305	270	255	255	290	295	290	270	300	280	285	315	345	325	300	335	305	285	285	295	285	275	14
18	280	240	250	240	220	230	230	300	335	310	315	305	310	320	325	325	330	330	320	340	240	200	175	210	15
19	5	100	10	295	315	90	270	295	10	45	355	355	345	280	245	270	330	335	350	330	35	135	145	190	16
20	185	210	180	175	160	140	125	130	210	215	220	210	205	210	215	230	220	215	210	325	35	130	145	185	10
21	190	210	210	180	190	180	175	185	205	225	220	305	300	290	270	255	290	5	25	340	90	170	205	280	10
22	305	240	265	250	255	250	250	285	270	280	295	290	265	290	245	235	235	230	225	215	255	275	265	255	12
23	180	205	240	15	85	110	175	225	230	235	230	230	220	275	265	240	230	240	230	255	270	275	300	310	11
24	270	265	245	240	100	80	120	150	155	145	320	285	325	320	310	355	255	250	200	240	240	270	180	170	12
25	150	160	175	130	140	120	120	150	155	145	190	205	200	205	205	215	200	200	180	175	145	145	145	160	7
26	170	165	185	185	185	170	170	190	200	200	205	190	195	190	195	195	210	220	225	190	275	290	140	300	10
27	290	(VA)	(VA)	280	295	260	260	280	240	220	200	215	255	220	230	245	245	250	245	225	215	220	230	230	12
28	205	235	220	230	245	240	230	245	265	275	290	280	295	280	280	270	265	275	280	270	235	270	280	310	13
29	275	265	320	265	270	220	175	280	325	315	345	325	290	180	160	335	65	10	250	70	110	140	160	165	(VA)
30	155	110	5	180	180	215	190	195	200	195	215	210	220	270	270	300	320	340	0	(VA)	145	145	140	125	10
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
PV	9	(VA)	9	9	12	9	9	9	10	10	10	10	10	10	10	11	11	11	10	10	13	9	9	9	10

AQOUT (15 MAY 78)

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WIND DIRECTION

DEGREES
LEVEL HEIGHT : 10 METERS                                        C-B OIL SHALE PROJECT, COLORADO     *********************
                                                                                                    *                   *
                                                                SITE    42                          *     FINAL DATA    *
                                                                                                    *  AS OF 07/JUL/78  *
                                                                APR, 1978                           *                   *
                                                                                                    *********************
                                                                AEROVIRONMENT INC.


                                     CLOCK HOUR  (LOCAL STANDARD TIME)


DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23  PREV

  1  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
  2  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
  3  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
  4  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
  5  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   300   325   280   225   185   140   290   150    95    70    14
  6    95   125   110   125   115    95   135   175   185   190   190   180    95   110   110   105   105    95   105   165   195   190   195   190     6
  7    75   105   110    90    95    90    90   155   185   180   195   190   175   175   175   165   175   185   195   145   135   185   160   160     9
  8   215    95    75   145    85   135   135    85    45    50    45   165   205   190   215   240   250   220   245   205     0   140   105   110     7
  9   115   265   245   150    45   180   195   325   315   310   325   330   340   340   340   330   330   335    15    45   110    50    40    80    16
 10   110    80    85   105    95    90    85   165   280   290   305   320   315   310   315   295   315   290   280   195   150    55    75    70  (VA)
 11    95    90    95   100   105    95    90   155   210   195   200   215   235   220   210   225   230   230   210   250  (RF)  (RF)  (RF)  (RF)    11
 12  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 13  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 14  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)   215   210   210   215   190   155   170   175    95     9
 15   185   125   140   150   180   180   190   190   205   230   230   170   220   240   230   235   240  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (VA)
 16  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 17  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 18  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 19  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 20  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 21  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 22  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 23  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 24  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 25  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 26  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 27  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 28  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 29  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 30  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (  )
 31  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )

 PV     5     5     5     7     5     5     5     8     9     9    10     9    11  (VA)    11    11    12    11    10  (VA)     8     9     9     5     9

AQOUT    (15 MAY 78)
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WIND DIRECTION

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 56

APR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 07/JUL/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	150	145	105	100	110	115	180	255	90	80	80	100	50	180	95	145	170	80	80	95	80	95	120	120	6
2	105	105	160	95	135	140	95	95	120	160	165	165	130	175	155	160	145	95	185	135	125	125	155	75	7
3	210	150	85	100	160	[IM]	45	265	255	300	285	315	150	295	205	125	165	165	160	120	110	100	80	80	[VA]
4	130	145	110	150	130	140	115	105	100	100	130	115	115	145	155	185	175	180	120	115	115	80	80	75	6
5	100	85	175	220	210	215	125	85	210	90	235	295	30	140	320	305	290	170	195	110	150	135	110	85	5
6	95	110	95	130	90	110	95	155	145	140	125	140	145	145	170	170	170	165	185	180	145	135	110	105	7
7	105	125	95	65	95	130	115	110	110	130	130	140	155	150	165	165	165	160	170	155	105	100	120	135	7
8	160	100	115	120	100	120	135	70	80	20	5	0	240	150	135	190	225	220	215	160	230	185	125	80	5
9	150	135	100	100	110	100	140	290	290	295	310	310	300	315	325	320	315	320	325	35	110	145	125	125	15
10	140	155	130	130	135	145	120	65	300	335	290	290	315	305	320	320	315	295	275	155	100	100	125	110	[VA]
11	130	115	135	120	110	95	75	40	110	135	150	150	185	175	175	175	175	185	200	165	205	220	195	180	9
12	310	190	155	125	130	135	145	70	300	320	325	315	335	325	295	320	315	295	220	165	155	130	120	105	15
13	150	110	125	205	215	155	180	220	260	180	130	195	185	190	150	175	205	265	305	185	125	115	110	110	9
14	165	165	140	135	125	140	85	250	110	185	185	185	175	195	185	195	195	155	185	160	140	115	100	110	9
15	160	120	160	150	125	125	130	140	165	180	180	110	185	190	185	175	190	180	165	145	105	115	125	115	7
16	140	150	100	115	115	125	140	165	160	155	180	170	175	170	175	225	230	175	275	220	220	300	225	210	9
17	140	140	150	160	125	[IM]	[IM]	[IM]	[IM]	285	305	315	315	325	275	320	320	320	300	305	285	235	225	205	14
18	190	140	145	150	130	135	80	60	140	25	290	325	325	325	320	325	320	300	255	160	135	120	145	145	7
19	145	150	170	180	170	170	115	65	130	95	60	255	0	230	320	315	10	330	320	190	170	130	140	145	[VA]
20	135	130	145	120	115	110	95	75	70	170	175	185	180	180	190	210	200	190	195	165	105	105	110	100	[VA]
21	140	135	130	135	125	155	130	150	170	205	220	315	305	285	130	245	145	80	120	[IM]	[IM]	[IM]	[IM]	[IM]	7
22	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	285	285	305	295	290	315	245	215	215	190	200	195	210	200	165	140	10
23	135	115	115	120	110	110	90	75	165	270	265	255	280	305	305	285	235	230	270	205	130	130	150	140	6
24	165	140	135	150	130	150	90	60	165	145	130	210	265	270	310	190	290	320	230	145	120	125	110	120	7
25	150	130	130	140	135	130	115	140	315	310	185	175	165	180	175	185	165	165	140	120	140	120	130	165	7
26	160	135	135	140	160	160	115	165	175	165	170	170	175	175	175	180	245	230	230	180	150	150	165	190	8
27	125	165	180	160	125	130	100	195	270	215	185	190	255	170	225	280	250	230	245	165	115	105	115	105	[VA]
28	100	160	115	145	140	140	95	75	170	310	305	300	300	305	330	330	335	330	285	180	120	170	110	145	7
29	130	115	105	125	120	100	110	70	60	135	300	310	270	90	150	230	75	20	270	210	135	130	90	145	6
30	150	160	130	100	75	90	80	80	125	160	200	215	230	300	300	300	305	305	295	75	90	90	95	100	5
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
PV	7	7	6	7	6	7	5	4	8	7	9	15	9	9	9	9	9	9	11	8	6	6	6	6	7

AQOUT [15 MAY 78]

TEMPERATURE AT LEVEL 2

DEGREES CELSIUS
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*                      *
*      FINAL DATA      *
*   AS OF 07/JUL/78    *
*                      *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	4	5	5	6	5	4	3	3	3	3	4	7	5	3	3	2	2	3	2	2	3	2	2	1	3	7
2	2	1	1	1	0	0	1	2	3	4	4	3	2	4	6	3	2	4	4	4	4	1	2	1	2	6
3	0	0	1	1	0	0	-1	-1	0	1	1	3	4	4	6	7	7	6	4	3	3	2	3	2	2	7
4	2	3	3	3	3	2	3	4	7	9	9	10	11	12	12	12	11	10	9	9	8	8	9	8	7	12
5	8	8	5	3	1	0	0	1	1	2	3	2	4	4	7	6	7	6	6	4	4	4	4	4	4	8
6	4	3	3	4	3	4	4	6	7	8	9	10	11	12	12	(RF)	(RF)	(RF)	(RF)	(HF)	(RF)	(RF)	(RF)	(RF)	7	12
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	17	16	15	14	18	12	11	11	10	14	18
8	10	8	8	8	6	6	4	6	8	10	12	12	13	14	14	12	11	10	9	7	7	6	6	4	9	14
9	4	3	3	3	3	4	3	4	3	2	3	4	4	5	5	5	6	5	5	3	1	1	-1	-1	3	6
10	-1	-1	-2	-2	-2	-3	-3	-1	1	3	4	6	6	7	8	8	8	8	7	6	6	6	5	4	3	8
11	4	3	2	2	2	2	3	6	7	8	9	10	12	13	13	13	12	8	8	9	9	7	8	7	7	13
12	4	3	2	2	1	0	0	1	3	6	7	8	9	11	11	11	11	11	9	8	7	6	6	6	6	11
13	3	3	2	1	1	1	1	3	5	6	9	11	11	12	11	10	11	7	4	3	3	2	2	2	5	12
14	2	3	2	3	2	3	2	3	8	11	11	12	12	12	13	13	13	11	11	8	8	8	8	6	8	13
15	6	7	7	7	7	7	7	8	8	7	7	6	10	11	11	11	12	12	11	8	7	7	7	6	8	12
16	6	6	6	7	7	7	7	8	9	9	8	8	11	9	8	4	3	3	2	1	1	0	-1	-1	5	11
17	-1	-2	-1	-3	-3	-4	-3	-2	-2	-2	0	1	1	0	-2	-1	2	0	0	0	-1	-2	-3	-3	-1	2
18	-3	-5	-5	-5	-5	-5	-4	-1	1	2	3	4	5	7	7	8	8	8	6	4	3	3	1	1	2	8
19	0	1	-2	-2	-2	-2	-2	1	4	7	8	9	10	11	12	11	11	11	9	8	7	6	4	3	5	12
20	3	3	3	3	3	3	3	6	9	11	12	12	13	13	13	14	13	13	12	9	9	8	8	8	8	14
21	8	8	7	6	6	5	6	7	8	7	8	4	1	0	-1	-1	0	-1	-2	-2	-3	-3	-2	-5	3	8
22	-2	-2	-5	-5	-5	-5	-4	-2	-1	1	2	3	3	4	4	5	4	4	3	2	2	2	1	0	0	5
23	-1	-1	-1	0	0	1	1	4	6	7	8	9	9	10	11	11	12	12	9	7	6	6	5	4	6	12
24	3	3	2	2	1	0	1	4	8	9	11	13	13	14	14	16	15	15	13	12	11	11	11	9	9	16
25	9	9	8	8	8	8	8	11	14	16	16	16	17	16	16	15	16	15	14	13	11	9	11	10	12	17
26	11	11	11	12	11	10	9	12	13	13	14	16	17	17	17	17	16	16	16	14	13	11	11	9	13	17
27	8	8	7	5	4	3	4	5	5	4	4	7	6	3	4	6	5	4	6	4	4	3	3	3	5	8
28	4	4	4	4	3	3	4	4	6	7	7	8	9	10	10	11	11	10	10	9	8	6	5	5	7	11
29	4	3	3	2	2	1	2	2	6	6	9	11	10	9	9	7	7	7	4	3	3	3	3	3	5	11
30	3	3	3	3	3	3	3	4	6	6	6	7	6	6	8	9	9	8	8	6	4	4	3	3	5	9
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	4	3	3	3	2	2	2	4	5	6	7	8	8	9	9	9	9	8	7	6	6	5	5	4	6	( )
SD	4	4	4	4	4	4	3	3	4	4	4	4	4	5	5	5	5	4	4	4	4	4	4	4	3	( )

AQOUT (15 MAY 78)

TEMPERATURE

DEGREES CELSIUS
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 42

APR, 1978

AEROVIRONMENT INC.

****
FINAL DATA
AS OF 07/JUL/78
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
3	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
4	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	7	7	8	8	7	5	4	3	1	0	5	8
6	0	0	0	2	3	3	3	4	6	8	9	9	2	1	3	4	6	6	7	10	11	12	13	13	6	13
7	1	1	2	4	5	6	7	8	11	12	13	13	14	14	14	13	12	11	8	8	8	7	7	7	9	14
8	7	6	5	4	3	2	2	5	8	10	11	13	17	17	14	12	10	8	7	5	3	3	3	4	7	17
9	4	2	1	0	2	2	1	2	1	0	1	2	3	5	4	4	4	4	3	1	-1	-4	-6	-7	1	5
10	-6	-7	-7	-8	-9	-9	-8	-5	-2	1	2	3	5	6	7	7	7	7	5	4	3	2	0	-2	-0	7
11	-1	-2	-2	-2	-2	-3	-2	4	7	8	8	10	13	14	15	15	13	10	9	9	(RF)	(RF)	(RF)	(RF)	6	15
12	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
13	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
14	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	14	14	14	12	9	7	7	6	(RF)	10	14
15	6	4	6	5	7	7	7	8	9	9	10	11	12	12	12	12	14	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	9	14
16	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
17	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
18	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
19	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
20	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
21	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
22	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
23	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
24	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
25	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
26	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
27	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
28	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
29	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
30	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	2	1	1	1	1	1	1	4	6	7	8	9	9	10	9	10	10	8	7	6	5	4	3	2	6	[ ]
SD	4	4	4	4	5	5	5	4	4	4	4	4	6	5	4	4	3	3	2	3	4	5	6	6	3	[ ]

AUDIT (15 MAY 78)

TEMPERATURE

DEGREES CELSIUS
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 56

APR, 1978

AEROVIRONMENT INC.

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*                   *
*     FINAL DATA    *
*  AS OF 07/JUL/78  *
*                   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	3	3	3	3	1	1	1	1	0	1	1	3	5	4	3	3	2	0	0	1	0	0	0	0	2	5
2	0	0	0	0	0	0	-2	-1	2	3	4	5	3	3	5	6	2	0	0	0	0	0	-1	-1	1	6
3	0	-3	-3	-3	-2	-4	-4	-3	-3	-2	-1	-1	0	3	3	3	4	1	6	7	5	3	-1	-1	0	7
4	-2	-4	-3	-3	-2	-3	-4	-2	-1	-5	8	9	10	11	12	12	12	10	9	6	2	0	-2	-2	3	12
5	3	5	5	3	2	1	-1	-1	-1	0	1	2	2	4	4	5	7	6	5	4	4	0	-2	-3	2	7
6	-1	-2	-1	-2	-1	-1	0	1	3	4	8	9	11	12	12	12	11	11	9	6	1	0	-1	-1	4	12
7	-2	-3	-3	-2	-1	-2	-1	-1	1	6	10	11	12	15	16	17	16	16	13	13	10	8	5	6	7	17
8	8	6	5	3	1	1	0	1	4	8	10	11	13	15	15	14	12	9	9	7	4	3	2	2	7	15
9	2	1	-1	-1	-1	-1	-1	-1	1	1	1	1	2	4	4	4	3	6	3	4	2	-3	-4	-6	1	6
10	-7	-8	-9	-8	-8	-9	-9	-8	-4	-1	1	2	5	5	6	6	6	7	6	2	0	0	0	-2	-1	7
11	-3	-4	-4	-4	-6	-6	-3	-1	9	8	9	9	12	14	14	14	14	13	8	8	8	7	6	6	5	14
12	6	3	-1	-4	-6	-6	-8	-5	-2	2	7	9	11	13	13	12	12	12	9	4	2	-2	-3	-3	3	13
13	-2	-2	-1	-1	-1	-1	-1	2	5	8	11	14	12	12	12	11	11	6	3	1	1	1	1	0	4	14
14	0	-1	-2	-2	-2	-2	-2	0	5	11	11	14	14	15	15	15	14	13	11	8	7	6	5	4	7	15
15	4	3	3	4	5	6	6	8	9	10	10	7	12	13	13	13	13	13	11	6	2	1	-1	-1	7	13
16	-2	-2	-3	-2	2	4	6	9	10	11	9	8	14	14	11	7	4	5	3	1	0	0	-1	-2	4	14
17	-2	-2	-4	-5	-6	-7	-7	-4	-3	-2	0	1	2	2	0	0	2	1	1	1	-1	-2	-3	-4	-2	2
18	-5	-7	-8	-10	-10	-10	-8	-5	0	1	3	5	6	7	8	8	8	8	6	2	-2	-4	-5	-7	-1	8
19	-6	-7	-8	-9	-10	-10	-7	-3	3	8	9	10	13	13	13	13	12	12	11	7	4	2	-1	-1	3	13
20	-4	-4	-5	-5	-5	-5	-3	2	7	12	14	15	15	15	16	16	15	14	12	7	4	1	1	-1	6	16
21	1	0	-1	-2	-3	-3	0	8	9	9	10	4	2	0	-1	-1	-1	-2	-2	-3	-4	-5	-7	-9	-0	10
22	-8	-9	-10	-11	-11	-11	-9	-5	-1	1	1	3	5	5	7	7	7	5	4	2	1	2	0	-3	-1	7
23	-5	-6	-7	-7	-6	-5	-4	0	3	6	8	10	11	12	12	12	12	12	11	9	5	2	0	-2	3	12
24	-2	-4	-5	-6	-6	-7	-5	0	6	10	12	14	15	16	17	18	18	17	15	11	10	8	8	7	7	18
25	5	3	1	0	-1	-1	1	5	7	10	17	18	20	19	19	18	18	18	16	12	7	5	4	5	9	20
26	3	3	3	3	2	2	5	13	15	15	16	19	20	20	20	20	19	19	17	13	10	8	6	5	11	20
27	3	1	0	-2	-2	-2	-1	3	4	4	6	7	5	7	8	7	7	6	6	4	1	0	0	-1	3	8
28	0	0	1	1	0	0	0	3	6	8	9	10	9	9	11	11	11	11	9	7	3	1	1	1	5	11
29	-1	-3	-2	-3	-3	-3	-2	2	5	8	10	11	11	12	11	6	5	5	3	1	1	1	0	1	3	12
30	1	0	-2	-2	-2	-2	0	1	5	5	5	5	6	5	7	7	7	6	6	5	3	2	3	2	3	7
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	-0	-1	-2	-3	-3	-3	-2	1	3	5	7	8	9	10	10	10	9	9	7	5	3	1	0	-0	4	( )
SD	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	6	5	4	3	3	3	4	3	( )

AQOUT (15 MAY 78)

DELTA T #2

DEGREES CELSIUS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 07/JUL/78   *
*                    *
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CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[ ]	[ ]
2	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[ ]	[ ]
3	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[ ]	[ ]
4	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[ ]	[ ]
5	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[ ]	[ ]
6	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
7	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[ ]	[ ]
8	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[ ]	[ ]
9	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[ ]	[ ]
10	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[ ]	[ ]
11	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[ ]	[ ]
12	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[ ]	[ ]
13	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[CA]	[MT]	[MT]	[MT]	[MT]	[MT]	[MT]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
14	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
15	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
16	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
17	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
18	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
19	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
20	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
21	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
22	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
23	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
24	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
25	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
26	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
27	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
28	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
29	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
30	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
SD	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

AQOUT [15 MAY 78]

RELATIVE HUMIDITY

PERCENT
LEVEL HEIGHT : 1 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 07/JUL/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	85	90	91	91	88	88	90	90	90	91	91	87	72	70	83	75	82	91	87	83	83	83	85	84	85	91
2	88	88	88	90	88	90	92	90	83	76	69	64	77	67	73	57	76	87	72	66	61	62	79	83	79	92
3	52	95	95	95	95	95	95	95	95	91	80	76	75	64	64	49	46	47	42	53	69	74	77	75	76	95
4	77	78	75	71	68	65	63	60	53	49	39	35	33	31	29	26	29	27	29	32	35	36	39	34	46	78
5	32	32	32	49	73	86	90	90	90	90	83	74	79	73	68	53	52	45	47	46	45	54	56	55	62	90
6	52	49	51	53	53	53	54	54	50	44	39	35	35	32	29	25	23	24	25	27	32	37	40	41	40	54
7	42	44	44	42	42	40	41	41	34	30	28	26	25	23	15	14	16	19	22	25	24	24	25	28	30	44
8	31	36	42	49	51	58	55	49	42	37	32	23	18	17	18	22	29	35	42	51	62	65	75	80	42	80
9	81	82	84	83	73	69	69	71	65	84	78	73	65	53	45	42	43	42	48	56	66	74	78	82	68	85
10	85	67	67	86	87	90	84	67	54	44	37	32	31	28	27	26	27	31	40	49	50	50	55	60	55	90
11	60	71	76	79	79	77	62	50	46	43	42	35	32	30	30	32	36	70	61	60	56	54	60	55	54	79
12	50	66	66	70	73	78	73	60	39	29	26	24	22	17	14	15	15	17	21	29	38	44	48	49	41	78
13	50	52	55	61	62	63	68	62	56	50	43	39	37	36	38	42	41	71	86	88	92	92	90	88	61	92
14	87	86	85	83	83	83	81	80	44	25	25	25	25	23	23	22	24	28	32	39	48	50	50	55	50	87
15	61	61	60	59	59	55	53	49	46	48	57	68	40	33	33	30	26	25	27	37	45	50	50	48	47	68
16	46	47	47	43	42	46	45	38	34	33	41	45	33	40	50	81	85	84	82	87	81	80	73	68	56	87
17	69	67	64	68	71	72	65	59	50	46	37	33	30	33	57	51	33	40	42	40	44	42	50	54	51	72
18	60	65	68	69	70	72	60	58	47	42	35	25	22	20	14	18	17	17	19	25	35	37	40	42	41	72
19	42	45	50	52	54	54	57	52	42	35	27	22	20	20	14	12	14	21	24	26	29	38	42	45	36	57
20	45	45	46	46	47	47	47	44	37	25	22	20	19	19	17	15	16	18	18	20	25	25	26	27	30	47
21	27	26	25	26	29	30	34	37	35	33	35	46	68	74	45	66	75	82	80	82	84	85	66	84	57	95
22	81	73	73	74	76	76	70	61	54	40	30	25	19	16	17	20	20	22	26	29	34	36	39	43	44	81
23	50	54	56	58	58	57	56	49	34	30	28	26	24	23	23	23	23	23	23	25	32	36	40	45	37	58
24	53	59	63	65	67	69	69	61	48	41	34	29	27	26	25	24	23	23	25	30	33	36	39	40	42	69
25	44	46	46	47	48	48	48	47	43	30	26	21	19	18	19	20	21	19	20	24	33	38	41	42	34	48
26	43	44	46	43	42	44	47	43	39	36	34	32	29	27	27	27	27	31	31	33	36	42	49	51	38	51
27	57	63	70	76	83	85	88	86	78	80	75	53	45	70	64	54	56	63	61	60	67	72	75	76	69	88
28	78	77	74	74	74	74	75	73	66	60	55	48	41	41	40	39	39	39	40	45	52	60	64	72	58	78
29	81	83	85	86	90	90	90	82	68	60	50	46	51	50	53	73	85	85	90	95	95	95	91	89	78	95
30	86	86	87	84	89	89	69	75	66	60	68	59	68	65	54	46	52	54	54	71	62	82	83	83	72	89
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	61	63	64	66	67	68	67	62	55	49	46	42	39	39	39	38	39	43	44	48	52	55	58	59	53	( )
SD	19	19	19	18	17	17	17	17	18	20	20	19	20	21	22	21	22	24	23	22	21	20	19	19	15	( )

AQOUT (15 MAY 78)

BAROMETRIC PRESSURE

MM OF HG

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 07/JUL/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	588	588	587	587	587	586	586	586	586	586	585	584	584	584	584	584	584	584	584	585	585	585	585	585	585	588
2	585	586	586	586	586	586	586	586	586	586	586	587	587	586	586	586	586	587	587	587	587	587	587	587	586	587
3	587	588	588	588	588	589	590	590	590	591	591	591	591	591	591	591	591	591	592	592	592	593	593	593	590	593
4	593	592	592	592	592	591	591	591	591	591	590	590	588	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	591	593
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	587	588	588	589	588	589	589	589	589	589	589	590	590	590	589	590
6	589	589	589	589	588	588	588	588	588	587	588	587	587	587	587	587	587	587	587	587	587	587	587	587	588	589
7	587	587	587	587	587	587	587	587	587	587	586	586	586	585	585	585	585	585	585	585	585	585	586	586	586	587
8	586	586	586	586	586	587	587	587	587	587	586	585	585	584	585	585	585	586	587	587	587	587	587	587	586	587
9	587	586	586	586	586	586	586	587	587	587	587	587	587	587	587	587	587	588	588	589	590	590	590	590	587	590
10	590	590	590	590	590	590	590	590	591	591	590	590	590	590	589	590	590	590	590	590	590	590	590	590	590	591
11	590	590	591	590	590	590	590	590	590	590	590	589	589	588	588	588	588	588	588	588	588	588	588	589	589	591
12	589	589	589	589	589	589	590	590	590	590	590	589	588	588	588	589	589	589	589	589	589	590	590	590	589	590
13	589	589	589	589	589	589	589	589	589	589	589	587	587	587	586	586	586	587	587	588	588	588	588	588	588	589
14	588	588	588	588	588	588	588	589	589	589	588	588	588	587	587	588	588	588	588	588	588	588	588	588	588	589
15	588	588	588	588	588	588	588	588	588	589	589	590	588	588	588	588	587	587	587	588	588	588	587	587	588	590
16	587	587	586	586	586	585	585	585	585	584	584	584	583	584	584	583	584	584	584	585	586	587	587	587	585	587
17	587	587	587	587	587	587	587	587	588	588	588	589	589	589	589	590	590	590	590	590	591	591	592	592	589	592
18	593	592	593	593	593	593	593	593	593	593	593	592	592	592	593	593	593	593	593	593	593	593	593	593	593	593
19	593	593	593	593	593	593	593	593	593	593	593	593	592	591	590	590	590	590	590	590	590	590	590	590	592	593
20	590	590	589	589	589	589	589	589	588	588	587	587	587	586	585	585	585	585	584	584	584	584	584	584	587	590
21	584	584	584	583	583	583	583	582	582	582	582	583	584	584	584	584	585	586	587	587	588	588	588	588	584	588
22	588	588	587	588	589	589	590	590	590	590	590	590	590	590	590	590	590	590	590	590	590	591	591	591	590	591
23	592	592	592	592	593	593	593	593	593	592	591	591	591	591	591	591	591	591	592	593	593	593	593	593	592	593
24	593	593	593	594	594	594	594	594	594	594	593	593	593	593	593	592	592	592	591	592	592	592	592	592	593	594
25	591	591	591	590	590	590	590	590	590	590	590	590	590	590	590	589	589	589	589	589	589	588	588	588	590	591
26	588	587	587	587	587	587	588	587	587	587	587	587	586	586	(CA)	586	585	585	585	585	585	585	585	585	586	588
27	585	585	584	584	584	584	584	585	586	587	587	587	587	588	(CA)	(CA)	588	588	588	589	589	589	589	589	587	589
28	589	588	589	589	589	590	590	590	589	589	589	589	588	588	588	588	588	588	588	588	588	588	588	588	589	590
29	588	588	587	587	587	587	587	587	587	586	586	586	585	585	585	586	586	586	586	586	586	586	585	585	586	588
30	585	585	585	585	584	584	584	584	584	584	584	584	583	584	584	584	583	583	584	584	584	584	584	584	584	585
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	589	588	588	588	588	588	588	589	589	589	588	588	588	588	588	588	588	588	588	588	588	588	588	588	588	( )
SD	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	3	3	3	2	( )

AOOUT (15 MAY 78)

Solar Radiation Data
held pending calibration of instrument

MIXING HEIGHT

METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

APR, 1978

AEROVIRONMENT INC.

****
*   *
*   FINAL DATA   *
* AS OF 07/JUL/78   *
*   *
****

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	30	30	30	30	30	30	30	80	80	(OS)	(OS)	(OS)	30	50	(OS)	50	80	(OS)	30	30	30	30	30	30	40	80
2	30	30	30	30	30	30	30	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	30	30	30	30	30	30	30	30
3	30	30	30	30	30	30	30	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	30	30	30	30	30	30	30	30
4	30	30	30	30	30	30	30	30	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	30	30	30	30	30	30	30	30
5	30	30	30	30	30	30	30	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	30	30	30	30	30	30	30	30
6	30	30	30	30	30	30	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	30	30	30	30	30	30	30	30	30
7	30	30	30	30	30	30	30	30	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	30	30	30	30	30	30	30	30
8	30	30	30	30	30	30	30	30	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	30	30
9	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
10	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
11	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
12	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
13	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
14	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
15	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
16	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
17	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
18	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
19	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
20	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
21	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
22	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
23	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
24	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	30	30	30	30	30	30	30
25	30	30	30	30	30	30	30	30	30	30	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	30	30	30	30	30	30	30
26	30	30	30	30	30	30	30	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	30	30	30	30	30	30	30
27	30	30	30	30	30	30	30	30	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	150	30	30	30	30	39	150
28	30	30	30	30	30	30	30	30	30	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	30	30	30	30	30	30	30
29	30	30	30	30	30	30	30	30	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	30	30	30	30	30	30	30	30
30	30	30	30	30	30	30	30	30	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	(OS)	30	30	30	30	30	30	30
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	30	30	30	30	30	30	30	36	47	30	[ ]	[ ]	30	50	[ ]	50	80	30	30	39	30	30	30	30	30	[ ]
SD	0	0	0	0	0	0	0	16	24	0	[ ]	[ ]	0	0	[ ]	0	0	0	0	31	0	0	0	0	0	[ ]

AQOUT [15 MAY 78]

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INVERSION HEIGHT

METERS
                                                        C-B OIL SHALE PROJECT, COLORADO      ************************
                                                                                             *                      *
                                                        SITE  20                             *      FINAL DATA      *
                                                                                             *   AS OF 07/JUL/78    *
                                                        APR, 1978                            *                      *
                                                                                             ************************
                                                        AEROVIRONMENT INC.


                                          CLOCK HOUR  (LOCAL STANDARD TIME)

DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23    AVE  PEAK

  1   140   200   230   140   150   320   280   340   280  (NV)  (NV)  (NV)   150   230  (NV)   180   250  (NV)    30    30   100   180   210   270    195   340
  2   330   320   380   280   250   330   280  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)   240    80   140   290   280   220    263   380
  3   200   350   350   330   250   230   230  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)   130   260   250   240   210   280    255   350
  4   200   180   170   180   200   220   200   100  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)   100   130   160   180   170   110    164   220
  5   120   180    90    60    50   110   100  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)    80   130   140   130   250   160    123   250
  6   130   160   150   140   150    80  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)    60   110   140   130   160   170    132   170
  7   230   130   120   130   120   120   110    90  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)    80   150   100    90   100   100    119   230
  8    80   110   150   160   150   140   160   130  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)    135   160
  9  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 10  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 11  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 12  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 13  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 14  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 15  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 16  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 17  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 18  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 19  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 20  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 21  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 22  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 23  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)   (  )  (  )
 24  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)    90   160   150   130   160    138   160
 25   170   200   170   190   170   240   200   160   130   140  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)    60   130   150   120   160    159   240
 26   160   140   160   120   130   120    90  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)    80   100   150   140   170    130   170
 27   120   280   390   390   380   390   310   200  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)   180   260   290   280   240    285   390
 28   230   270   220   240   260   220   260   240   100  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)    70   120   220   130   140    194   270
 29   210   210   190   220   200   180   150   120  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)    70    80   180   190   140   310    175   310
 30   450   480   460   410   390   250   210   140  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)  (NV)   120   210   300   260   240    302   480
 31  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )  (  )   (  )  (  )

 AV   198   229   231   214   204   211   198   169   170   140  (  )  (  )   150   230  (  )   180   250  (  )    99   112   156   192   184   195    180  (  )
 SD    92    96   111   101    92    89    70    75    79     0  (  )  (  )     0     0  (  )     0     0  (  )    60    56    50    64    61    63     60  (  )

ADOUT     (15 MAY 78)
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STABILITY TYPE AT LEVEL 1

0=STABLE, 1=UNSTABLE
LEVEL HEIGHT : 50 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

APR, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 07/JUL/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	1	1	1	0	0	0	0	1
2	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
4	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
5	0	0	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
8	0	0	0	0	0	0	0	0	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	1
9	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]
10	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]
11	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]
12	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]
13	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]
14	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]
15	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]
16	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]
17	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]
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27	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1
28	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1
29	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
30	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1
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PV	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

AQOUT [15 MAY 78]

```
STABILITY TYPE AT LEVEL 2

0=STABLE, 1=UNSTABLE
LEVEL HEIGHT =200 METERS                              C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                           *                   *
                                                      SITE   20                            *     FINAL DATA    *
                                                                                           *  AS OF 07/JUL/78  *
                                                      APR, 1978                            *                   *
                                                                                           *********************
                                                      AEROVIRONMENT INC.


                                   CLOCK HOUR  [LOCAL STANDARD TIME]

DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23   PREV

  1     1     1     0     1     1     0     0     0     0     1     1     1     1     0     1     1     0     1     1     1     1     1     0     0      1
  2     0     0     0     0     0     0     0     0     0     0     1     1     1     1     1     1     1     1     0     1     1     0     0     0      1
  3     0     0     0     0     0     0     0     1     1     1     1     1     1     1     1     1     1     1     1     0     0     0     0     0      1
  4     1     1     1     1     1     0     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1      1
  5     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     0     1      1
  6     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1      1
  7     0     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1      1
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 PV     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1      1

AQOUT    [15 MAY 78]
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C-b Sounding

Time: Morning   Date: 4/3/78

No data taken.

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C-R PIBAL SOUNDING                    RUN ON 06/JUL/78

SOUNDING DATE  4- 3-78

BALLOON RELEASED 1400 CST


BASE LINE ANGLE            258.0
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

               THEODOLITE #1            THEODOLITE #2


    TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION   TEMP
     .0            .0         .0        78.0       -.0        .0
     .5        228.2       69.6        78.4       5.0       7.9
    1.0        239.2       67.6        78.5       9.2       6.9
    1.5        265.6       82.0        77.2      13.9       5.9
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO       ERROR

    1      66.0        5.2
    2      78.0        5.4
    3      47.5        6.0


         HEIGHT  DIRECTION  SPEED  TEMP
          FEET    DEGREES   FT/SEC

          553.       61       6.2   7.9
          920.      161       2.2   6.9

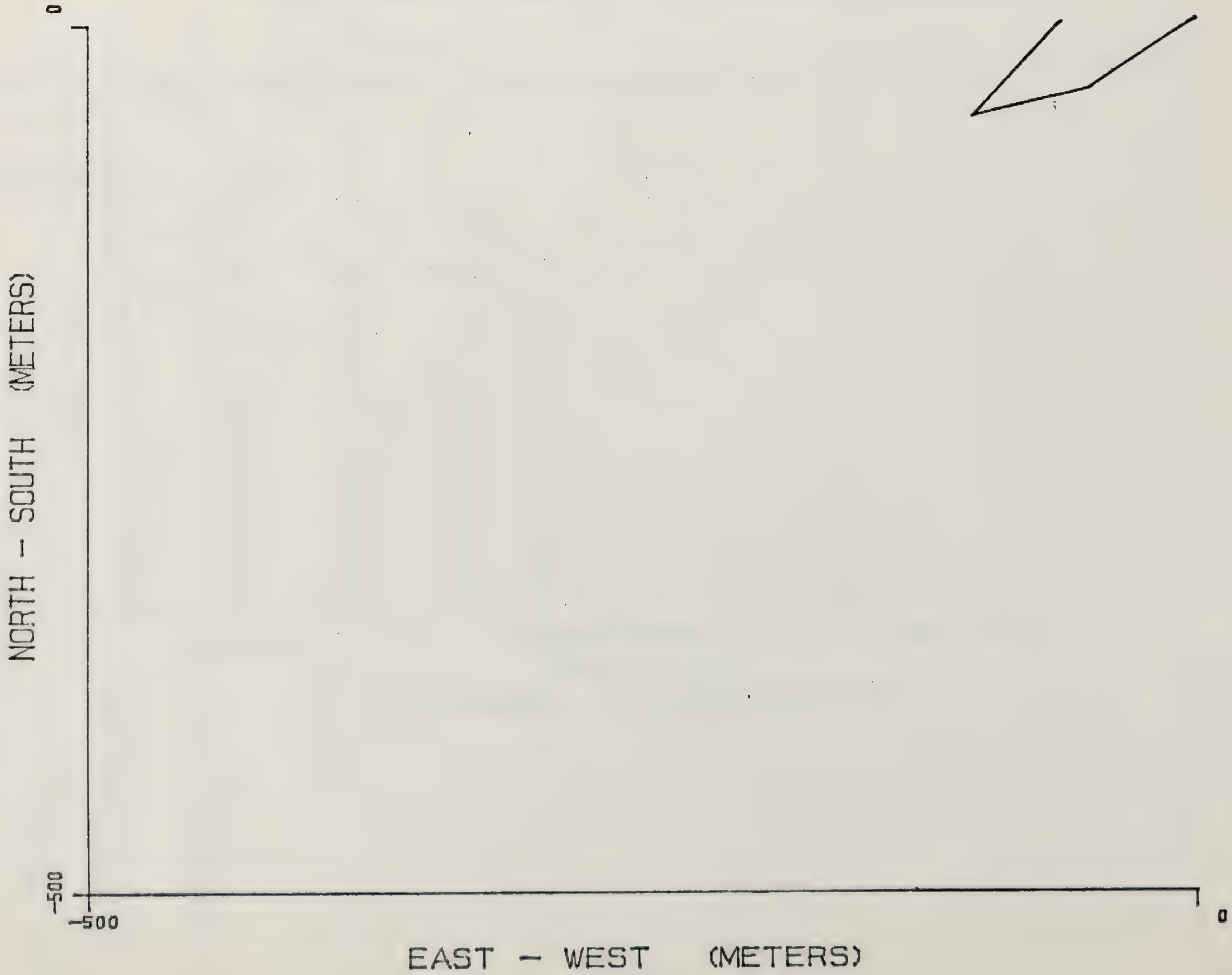

         HEIGHT  DIRECTION  SPEED  TEMP
         METERS   DEGREES   M/SEC

          168.       61       1.9   7.9
          280.      161        .7   6.9
```

C–B SOUNDING – PLOTTED ON 06/JUL/78

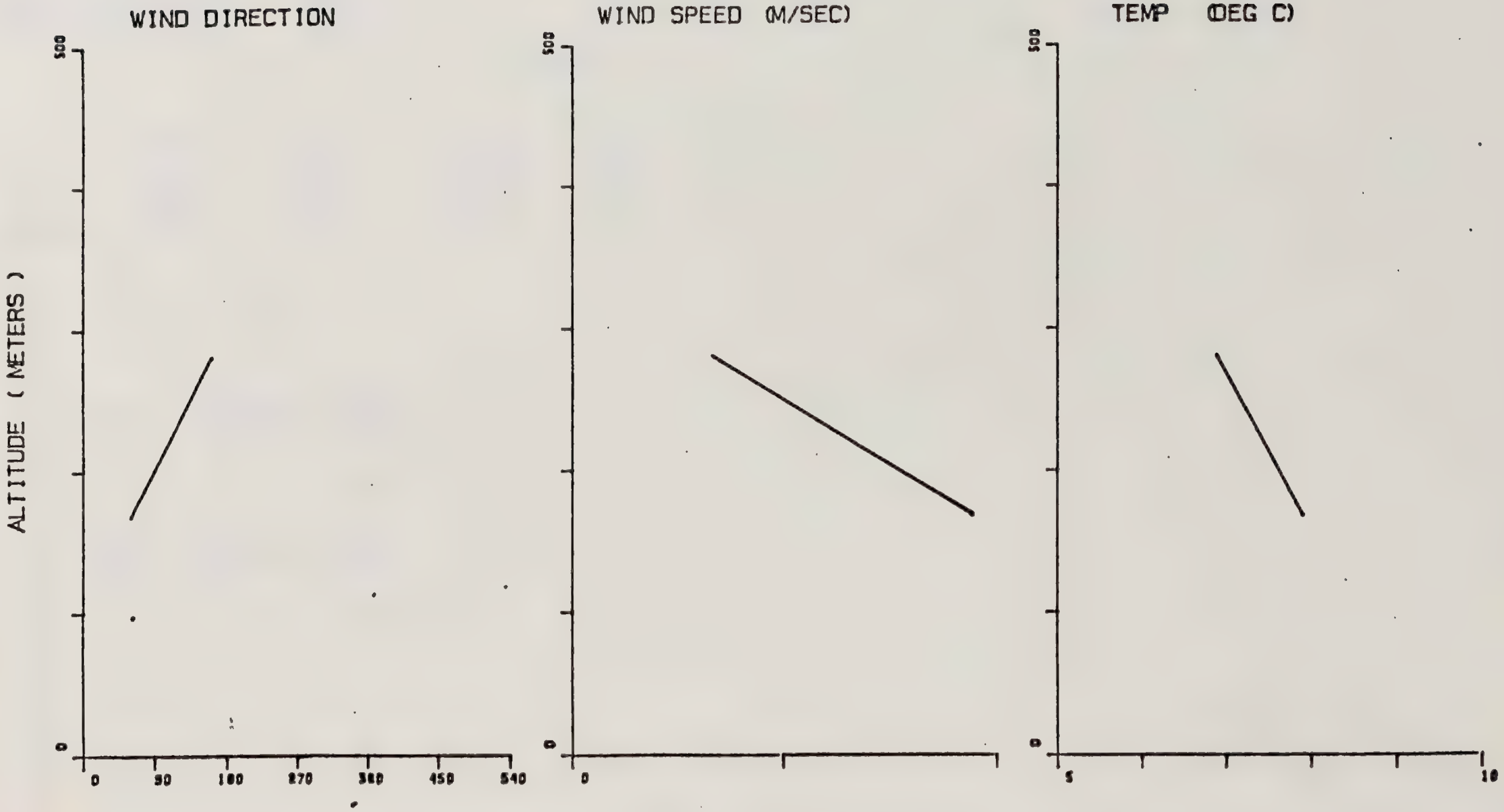
TIME 1400 DATE 4/ 3/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C–B SOUNDING – PLOTTED ON 06/JUL/78

TIME 1400 DATE 4/ 3/78



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C-B PIBAL SOUNDING                        RUN ON 06/JUL/78

SOUNDING DATE  4- 4-78

BALLOON RELEASED  655 CST

BASE LINE ANGLE            258.5
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

              THEODOLITE #1            THEODOLITE #2

   TIME      AZIMUTH  ELEVATION      AZIMUTH  ELEVATION    TEMP
    .0          .0        .0           78.5      -.0         .0
    .5       318.2      32.6           73.1      5.6        6.4
   1.0       326.2      24.8           65.7      6.1        6.0
   1.5       333.1      21.6           56.9      8.4        5.6
   2.0       339.6      20.8           48.4     10.4        5.2
   2.5       346.0      19.7           40.4     11.6        4.9
   3.0       350.8      18.9           35.9     12.4        4.5
   3.5       355.7      18.5           31.8     12.7        4.1
   4.0          .2      17.8           30.6     12.6        3.7
   4.5         4.0      17.0           29.9     12.3        3.2
   5.0         7.8      16.3           29.3     12.0        2.7
   5.5         9.9      15.8           28.5     11.6        2.2
   6.0        12.2      15.3           28.3     11.4        1.6
   6.5        13.9      14.9           28.3     11.2        1.1
   7.0        15.1      14.6           28.3     11.0         .5
   7.5        16.2      14.3           28.2     10.8         .0
   8.0        17.1      14.1           28.1     10.8        -.7
   8.5        17.7      13.8           28.0     10.7       -1.3
   9.0        18.1      13.7           27.8     10.6       -2.0
   9.5        18.5      13.5           27.5     10.5       -2.6
  10.0        18.9      13.2           27.4     10.4       -3.3
  10.5        19.4      13.0           27.4     10.2       -3.5
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO      ERROR

     1    197.5       5.2
     2     72.2       5.7
     3     75.3       6.6
     4     43.0       7.9
     5      6.3       9.8
     6      6.4      11.7
     7     80.5      14.4
     8     94.6      16.6
     9    133.7      19.3
    10    199.0      22.7
    11    321.6      25.7
    12    381.4      29.2
    13    435.4      32.2
    14    498.2      34.6
    15    576.4      37.5
    16    604.1      40.6
    17    609.4      43.2
    18    689.3      45.4
```
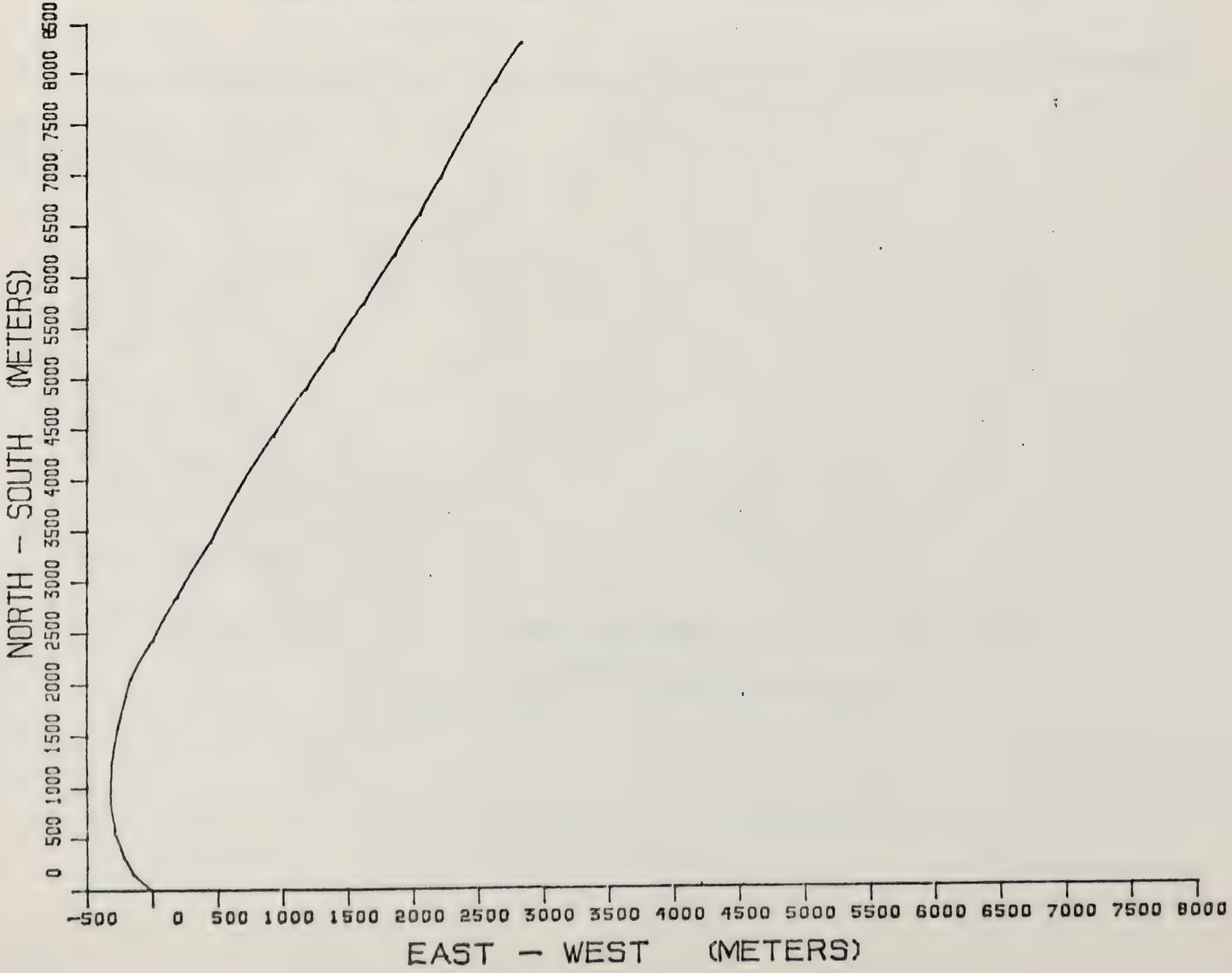

```
19      751.7        48.5
20      739.6        51.3
21      824.7        53.8

        HEIGHT   DIRECTION   SPEED   TEMP
         FEET     DEGREES    FT/SEC

          468.       147      20.9    6.4
          597.       161      23.3    6.0
          833.       170      29.3    5.6
         1138.       178      36.8    5.2
         1464.       184      40.1    4.9
         1794.       190      45.6    4.5
         2218.       197      48.1    4.1
         2500.       203      47.4    3.7
         2795.       205      58.4    3.2
         3182.       204      62.4    2.7
         3507.       205      62.8    2.2
         3881.       207      61.5    1.6
         4179.       208      51.8    1.1
         4414.       208      51.4     .5
         4695.       207      56.9     .0
         5040.       206      53.4    -.7
         5274.       205      45.4   -1.3
         5501.       203      50.7   -2.0
         5810.       204      56.2   -2.6
         6044.       206      50.0   -3.3

        HEIGHT   DIRECTION   SPEED   TEMP
        METERS    DEGREES    M/SEC

          143.       147       6.4    6.4
          182.       161       7.1    6.0
          254.       170       8.9    5.6
          347.       178      11.2    5.2
          452.       184      12.2    4.9
          547.       190      13.9    4.5
          676.       197      14.7    4.1
          762.       203      14.4    3.7
          852.       205      17.8    3.2
          970.       204      19.0    2.7
         1069.       205      19.1    2.2
         1183.       207      18.7    1.6
         1274.       208      15.8    1.1
         1345.       208      15.7     .5
         1431.       207      17.3     .0
         1536.       206      16.3    -.7
         1607.       205      13.8   -1.3
         1677.       203      15.5   -2.0
         1771.       204      17.1   -2.6
         1842.       206      15.2   -3.3
```

C-B SOUNDING -- PLOTTED ON 06/JUL/78

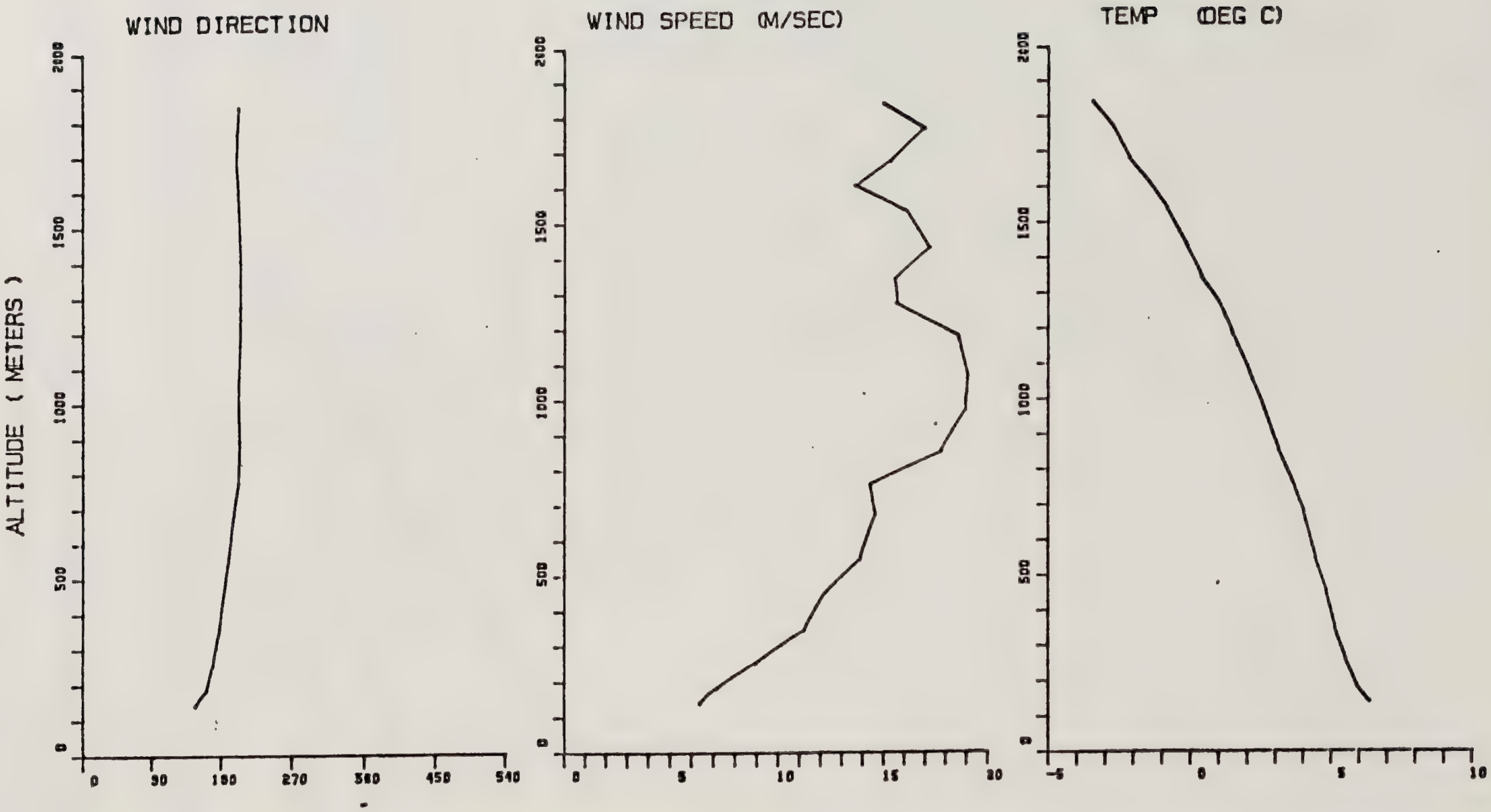
TIME 655 DATE 4/ 4/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 06/JUL/78

TIME 655 DATE 4/ 4/78



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C-B PIBAL SOUNDING                         RUN ON 06/JUL/78

SOUNDING DATE  4- 4-78

BALLOON RELEASED 1400 CST


BASE LINE ANGLE             258.5
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0

                THEODOLITE #1            THEODOLITE #2


    TIME       AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
     .0           .0         .0           78.5       -.0        .0
     .5        355.1       17.0           70.8       2.9      14.0
    1.0          1.1       22.6           61.5       6.4      12.6
    1.5          2.5       27.4           55.4      10.7      11.1
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      146.1       5.6
     2       21.1       7.1
     3       32.9       8.5


        HEIGHT  DIRECTION  SPEED  TEMP
         FEET    DEGREES   FT/SEC

         263.      181      30.8  14.0
         775.      185      31.5  12.6

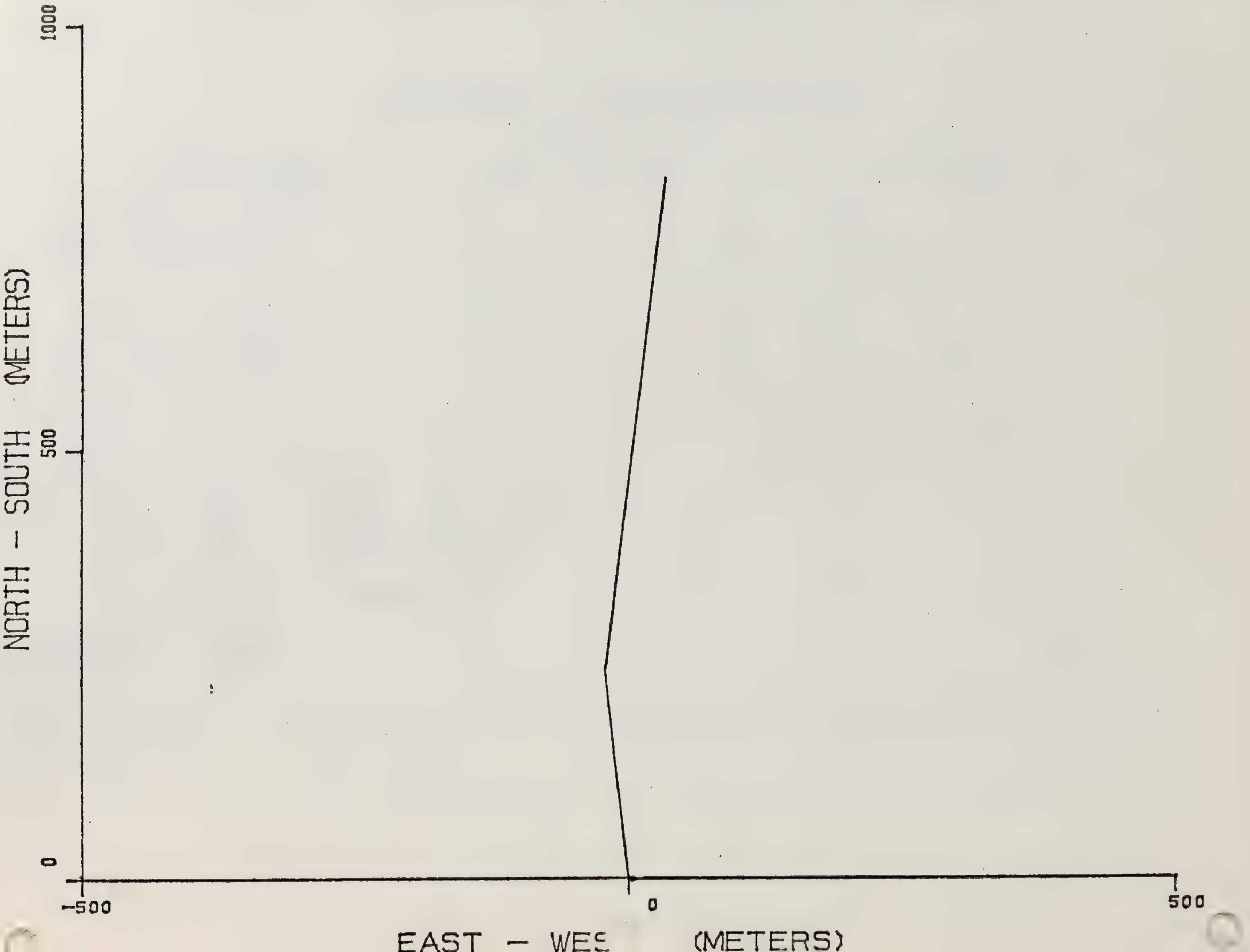

        HEIGHT  DIRECTION  SPEED  TEMP
        METERS   DEGREES   M/SEC

          80.      181       9.4  14.0
         236.      185       9.6  12.6
```

C–B SOUNDING – PLOTTED ON 06/JUL/78

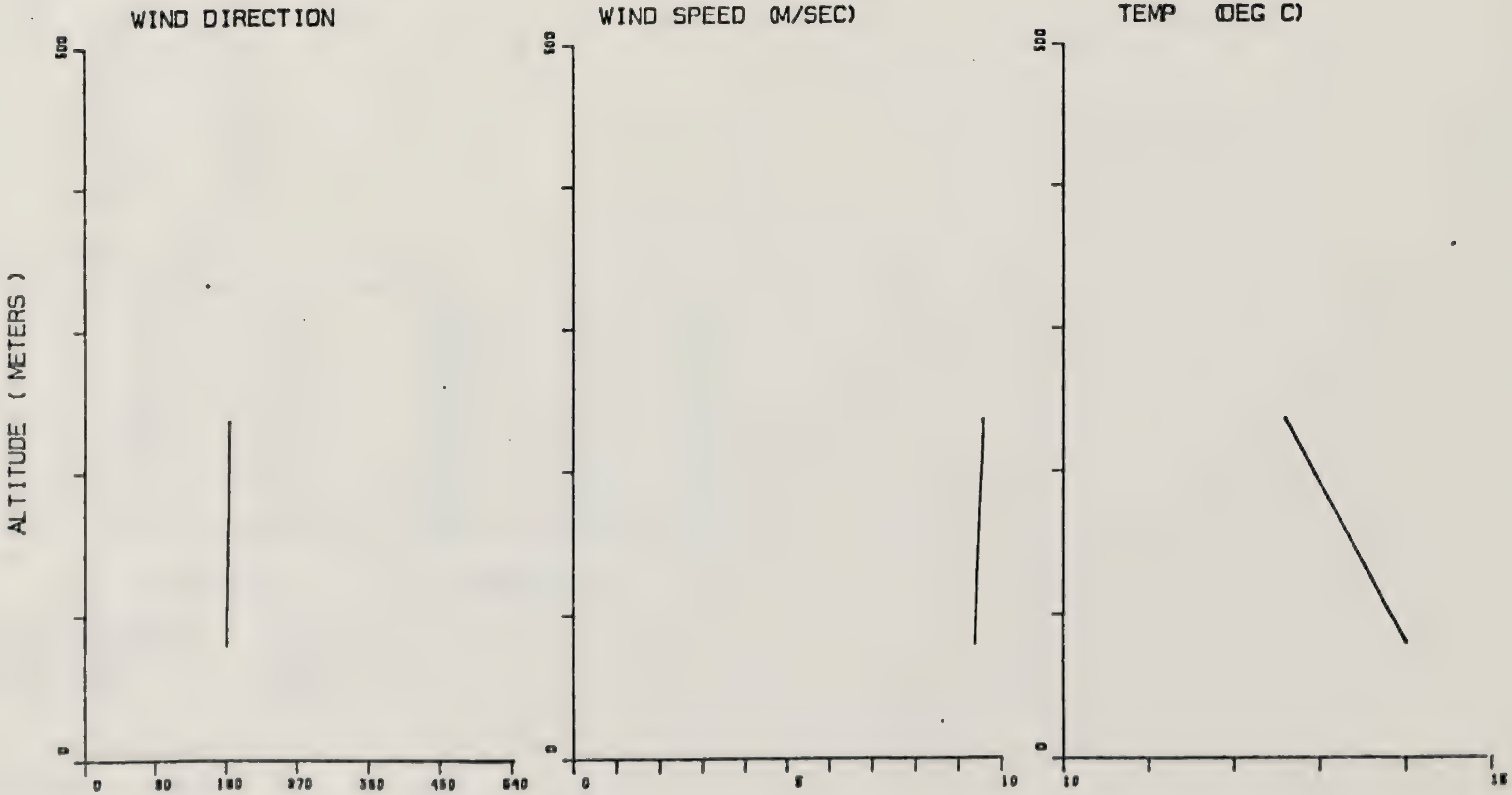
TIME 1400 DATE 4/ 4/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 06/JUL/78

TIME 1400 DATE 4/ 4/78



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C-B PIBAL SOUNDING                          RUN ON 06/JUL/78

SOUNDING DATE   4- 6-78

BALLOON RELEASED   650 CST


BASE LINE ANGLE              258.5
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

                THEODOLITE #1               THEODOLITE #2


     TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
      .0            .0         .0           78.5        -.0      .0
      .5         355.0       28.6           73.3        3.0     7.1
     1.0         356.1       25.6           65.0        6.0     7.0
     1.5         357.0       20.8           55.6        8.3     6.8
     2.0         359.3       19.4           46.3       10.0     6.0
     2.5           2.4       17.8           40.4       10.6     5.3
     3.0           4.3       18.3           36.3       11.1     4.5
     3.5           6.1       17.6           33.7       11.2     3.8
     4.0          10.9       18.7           32.0       10.9     3.2
     4.5          11.8       19.4           31.0       10.5     2.8
     5.0          12.5       19.8           30.5       10.3     2.4
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO        ERROR

      1      100.7         5.4
      2       49.5         6.5
      3       72.2         8.0
      4        7.7        10.2
      5       43.8        12.7
      6      229.7        15.0
      7      321.5        17.4
      8      834.4        21.2
      9     1206.2        22.1
     10     1435.4        22.5


         HEIGHT  DIRECTION  SPEED   TEMP
          FEET    DEGREES   FT/SEC

           312.      177      23.1   7.1
           676.      178      32.8   7.0
           979.      180      43.4   6.8
          1401.      186      49.6   6.0
          1739.      190      48.2   5.3
          2163.      193      45.4   4.5
          2478.      202      58.2   3.8
          3090.      205      44.6   3.2
          3253.      201      12.9   2.8


         HEIGHT  DIRECTION  SPEED   TEMP
         METERS   DEGREES   M/SEC
```
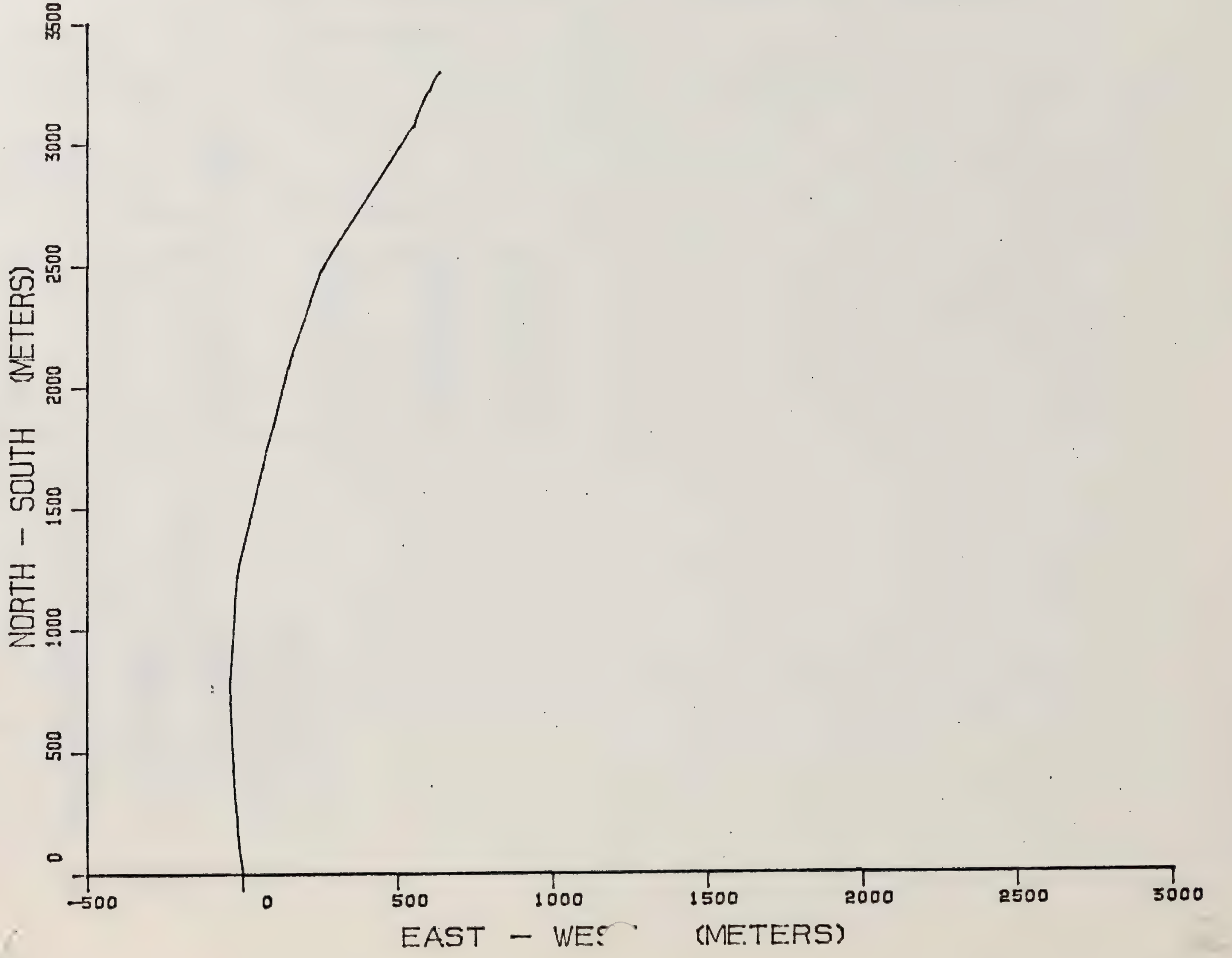

95.	177	7.0	7.1
206.	178	10.0	7.0
298.	180	13.2	6.8
427.	186	15.1	6.0
530.	190	14.7	5.3
659.	193	13.8	4.5
755.	202	17.7	3.8
942.	205	13.6	3.2
992.	201	3.9	2.8

C-B SOUNDING - PLOTTED ON 06/JUL/78

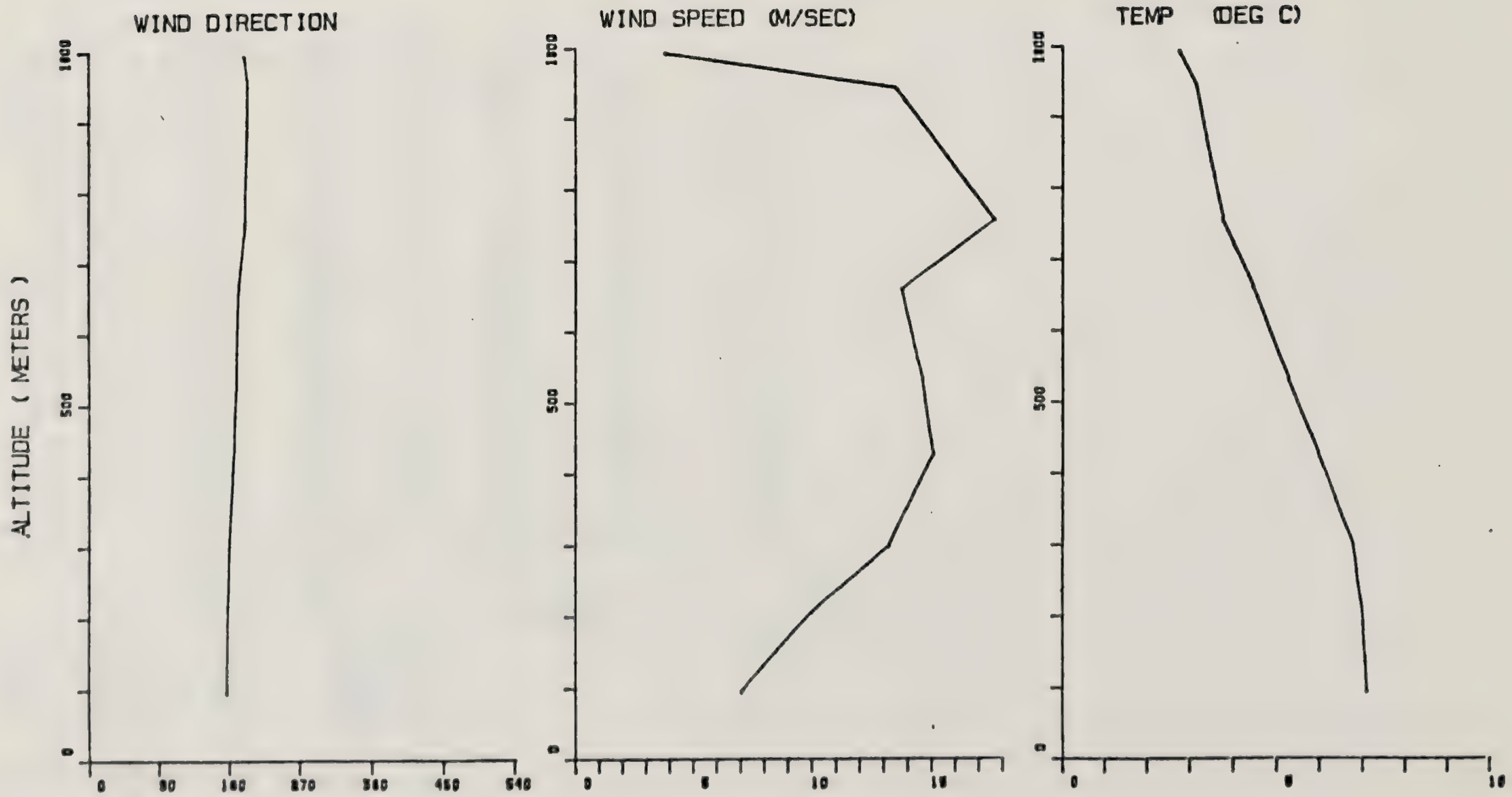
TIME 650 DATE 4/ 6/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C—B SOUNDING - PLOTTED ON 06/JUL/78

TIME 650 DATE 4/ 6/78



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C-8 PIBAL SOUNDING                          RUN ON 07/JUL/78

SOUNDING DATE  4- 6-78

BALLOON RELEASED 1400 CST

BASE LINE ANGLE            258.0
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

               THEODOLITE #1            THEODOLITE #2

    TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
      .0           .0         .0          78.0        -.0      .0
      .5         14.2       29.6          71.0        5.8    13.1
     1.0         14.1       28.1          68.7        8.4    12.2
     1.5         18.2       21.8          59.8       10.1    10.4
     2.0         18.7       19.1          53.9       10.6     9.5
     2.5         18.9       17.6          44.8       10.7     8.6
     3.0         19.4       16.2          41.4       10.3     7.7
     3.5         20.1       16.3          40.1       10.7     6.8
     4.0         20.0       16.6          38.1       11.5     5.9
     4.5         19.1       16.5          36.8       11.8     5.0
     5.0         18.0       16.7          33.5       12.3     4.1
     5.5         16.6       17.7          31.3       13.5     3.2
     6.0         15.7       19.4          30.8       15.1     2.3
     6.5         16.3       21.0          30.0       16.5     1.4
     7.0         16.9       21.2          29.9       16.8      .5
     7.5         18.5       20.5          30.4       16.2     -.3
     8.0         19.9       19.6          30.9       15.7     -.8
     8.5         22.5       18.6          31.4       15.2    -1.2
     9.0         23.8       18.0          31.8       14.9    -1.7
     9.5         25.2       17.7          32.4       14.6    -2.2
    10.0         26.2       17.6          32.9       14.3    -2.7
    10.5         27.3       17.3          33.5       14.2    -3.2
    11.0         28.2       17.0          34.0       14.0    -3.7
    11.5         29.3       16.8          34.5       14.0    -4.2
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1     206.7        6.1
     2     357.2        6.7
     3     310.6        9.0
     4     266.4       11.0
     5      41.9       15.8
     6     154.1       18.8
     7     198.8       20.7
     8     213.3       23.3
     9     179.5       24.3
    10     315.1       28.3
    11     335.1       30.7
    12     282.9       30.5
    13     415.7       33.5
    14     438.6       35.2
    15     517.6       37.4
    16     479.4       39.9
```

WE

```
 17       558.8       47.6
 18       565.1       52.1
 19       698.2       55.8
 20       893.2       57.3
 21       888.1       60.9
 22       923.9       63.7
 23       958.5       69.4

      HEIGHT  DIRECTION  SPEED   TEMP
       FEET    DEGREES   FT/SEC

        553.      194      21.0  13.1
        751.      200      30.1  12.2
       1181.      200      45.6  10.4
       1476.      199      68.7   9.5
       2152.      199      76.8   8.6
       2434.      202      47.3   7.7
       2743.      201      41.8   6.8
       3219.      194      34.0   5.9
       3387.      190      49.2   5.0
       4065.      188      61.2   4.1
       4736.      169      20.4   3.2
       5188.      191      21.4   2.3
       6177.      203      39.5   1.4
       6564.      214      36.9    .5
       6754.      218      47.6   -.3
       6948.      215      97.5   -.8
       7942.      215     115.2  -1.2
       8468.      218      78.7  -1.7
       8914.      225      51.4  -2.2
       9039.      226      50.1  -2.7
       9491.      224      62.1  -3.2
       9776.      222      80.5  -3.7

      HEIGHT  DIRECTION  SPEED   TEMP
      METERS   DEGREES   M/SEC

        168.      194       6.4  13.1
        229.      200       9.2  12.2
        360.      200      13.9  10.4
        450.      199      20.9   9.5
        656.      199      23.4   8.6
        742.      202      14.4   7.7
        836.      201      12.7   6.8
        981.      194      10.4   5.9
       1032.      190      15.0   5.0
       1239.      188      18.7   4.1
       1443.      169       6.2   3.2
       1581.      191       6.5   2.3
       1883.      203      12.0   1.4
       2001..     214      11.2    .5
       2059.      218      14.5   -.3
       2118.      215      29.7   -.8
       2421.      215      35.1  -1.2
       2581.      214      24.0  -1.7
       2717.      225      15.7  -2.2
       2755.      226      15.3  -2.7
       2893.      224      18.9  -3.2
```

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2960.     222     24.5  -3.7
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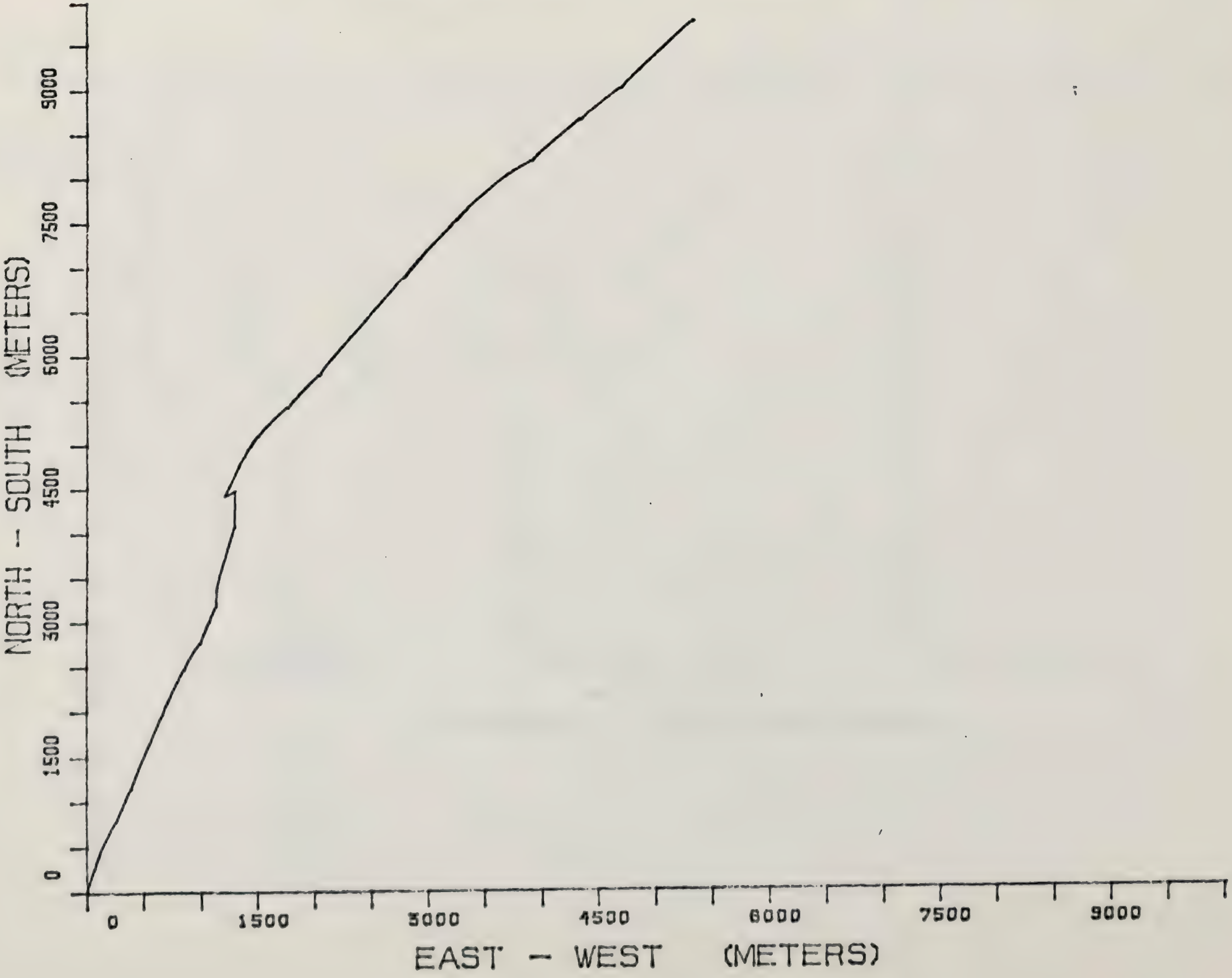
C–B SOUNDING – PLOTTED ON 07/JUL/78

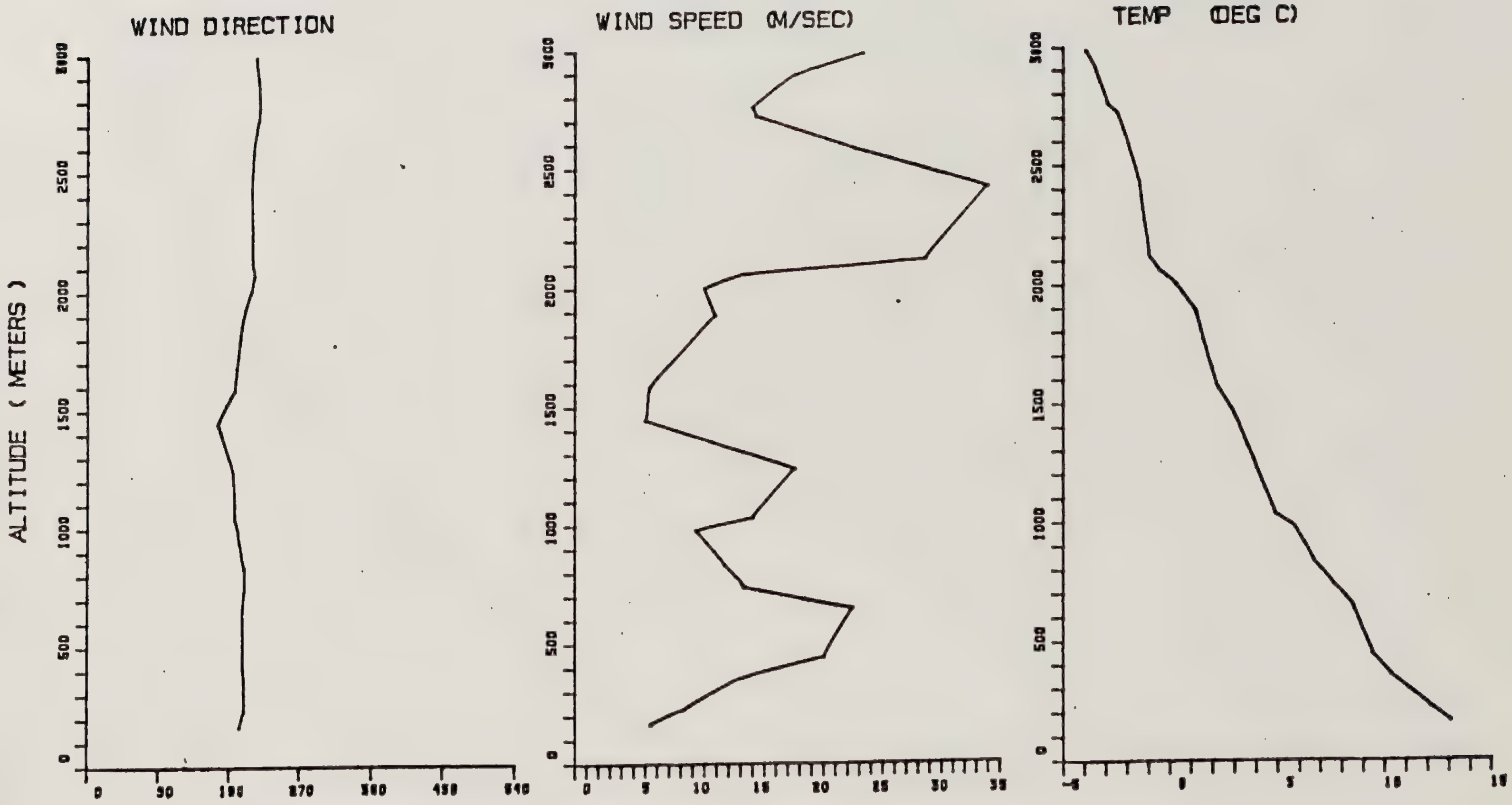
TIME 1400 DATE 4/ 6/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C–B SOUNDING – PLOTTED ON 07/JUL/78

TIME 1400 DATE 4/ 6/78



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C-B PIBAL SOUNDING                         RUN ON 06/JUL/78

SOUNDING DATE  4- 7-78

BALLOON RELEASED  650 CST


BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

                THEODOLITE #1              THEODOLITE #2


    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0           .0         .0           78.0       -.0        .0
     .5        351.1       39.8           71.6        5.1      12.7
    1.0          1.0       31.2           66.3        7.5      11.8
    1.5          4.2       25.3           55.7       10.2      11.0
    2.0          4.6       21.6           46.1       11.6      10.1
    2.5          5.4       19.5           40.0       11.7       9.3
    3.0          6.3       17.6           33.6       11.9       8.4
    3.5          6.7       17.5           29.9       12.0       7.6
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO       ERROR

     1       60.8        5.6
     2      113.0        6.5
     3       48.4        8.5
     4        3.1       11.1
     5       90.2       13.6
     6      151.8       17.6
     7      340.6       20.8

           HEIGHT  DIRECTION  SPEED  TEMP
            FEET    DEGREES   FT/SEC

             554.     181      21.2  12.7
             798.     188      34.0  11.8
            1280.     186      51.6  11.0
            1727.     186      53.8  10.1
            2051.     188      65.3   9.3
            2559.     188      70.7   8.4

           HEIGHT  DIRECTION  SPEED  TEMP
           METERS   DEGREES   M/SEC

             169.     181       6.5  12.7
             243.     188      10.4  11.8
             390.     186      15.7  11.0
             526.     186      16.4  10.1
             625.     188      19.9   9.3
             780.     188      21.5   8.4
```
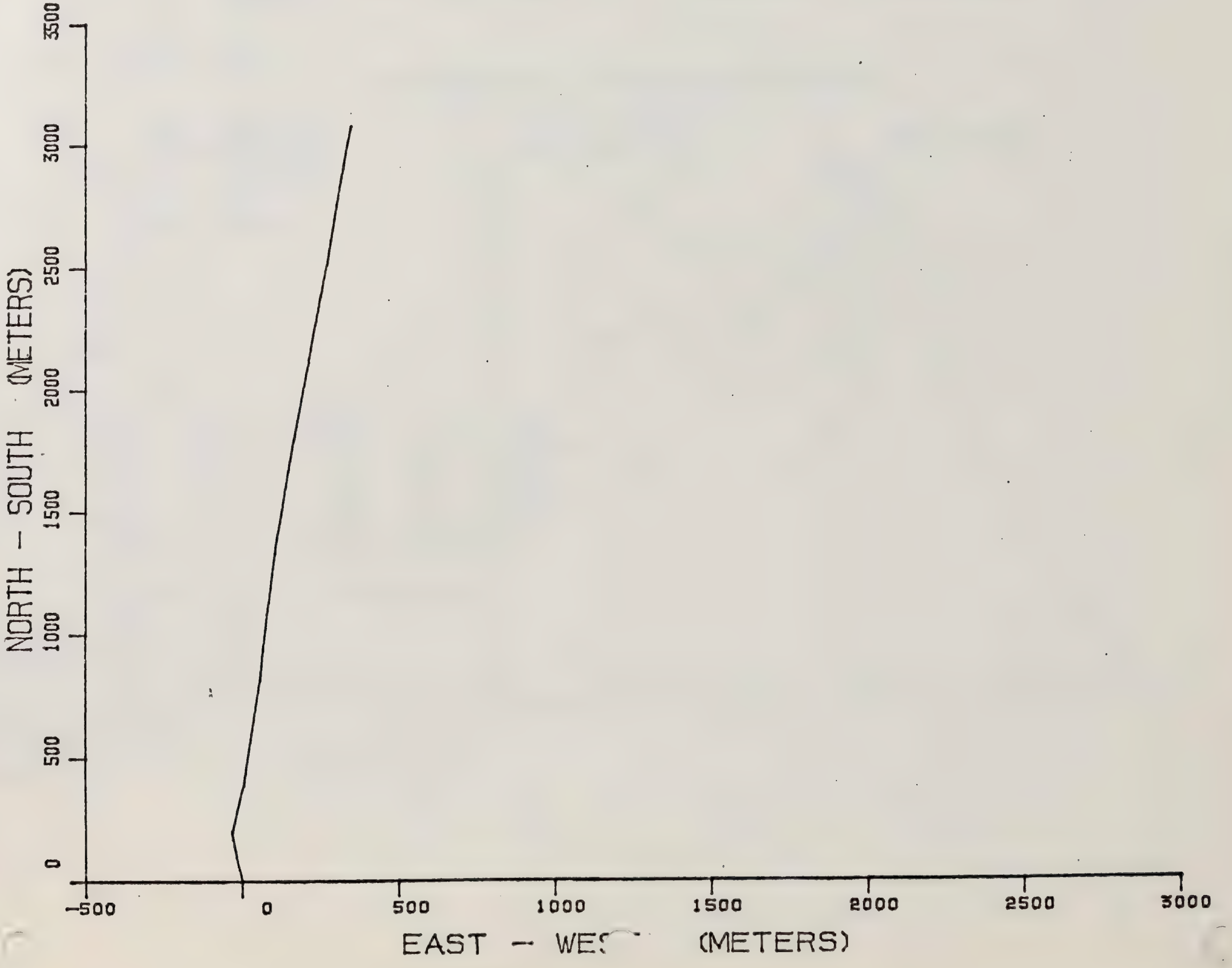

C–B SOUNDING – PLOTTED ON 06/JUL/78

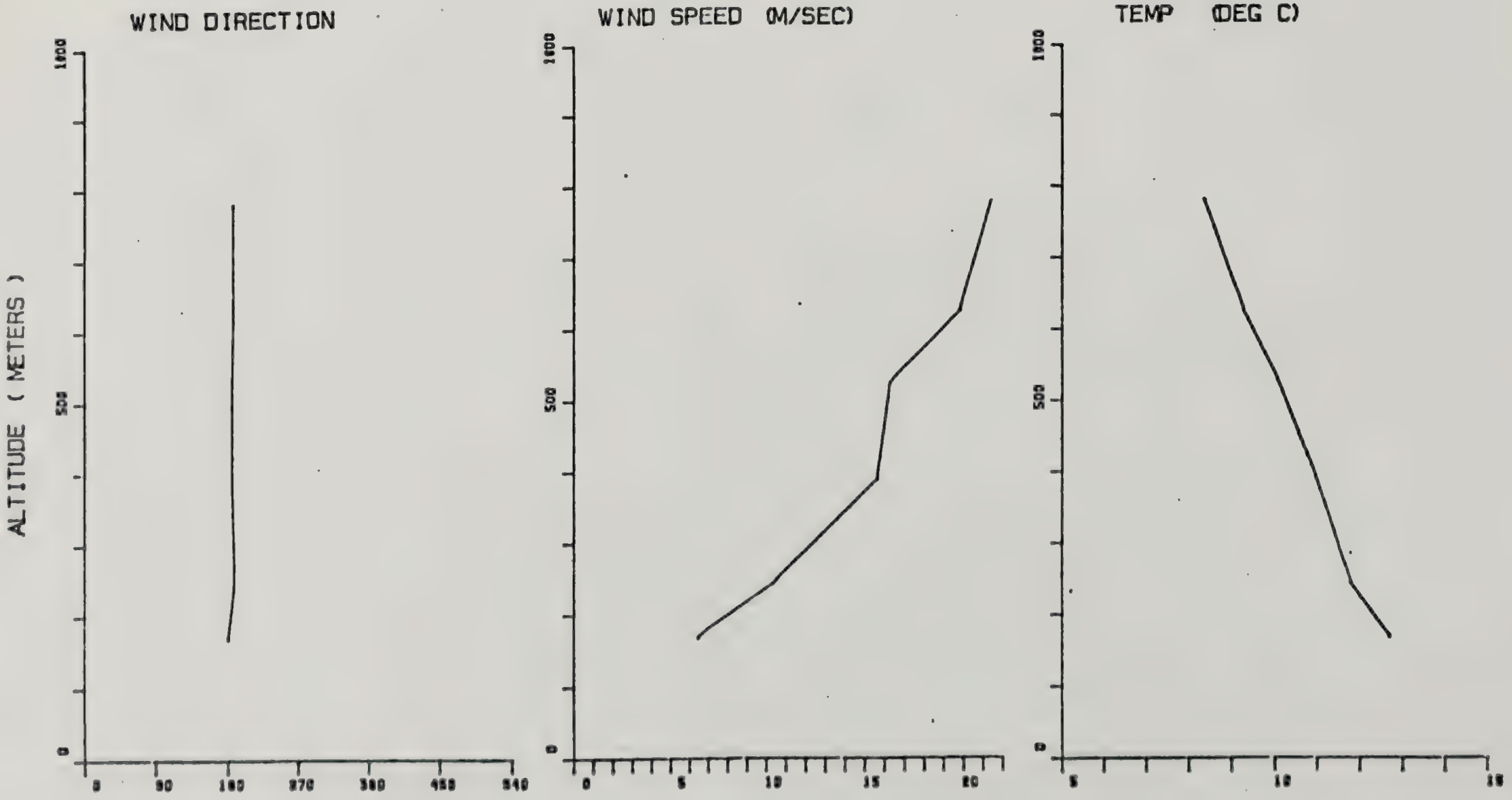
TIME 650 DATE 4/ 7/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 06/JUL/78

TIME 650 DATE 4/ 7/78



C-b Sounding

Time: 1330 Date: 4/7/78

Insufficient Data

C-b Sounding

Time: Morning   Date: 4/10/78

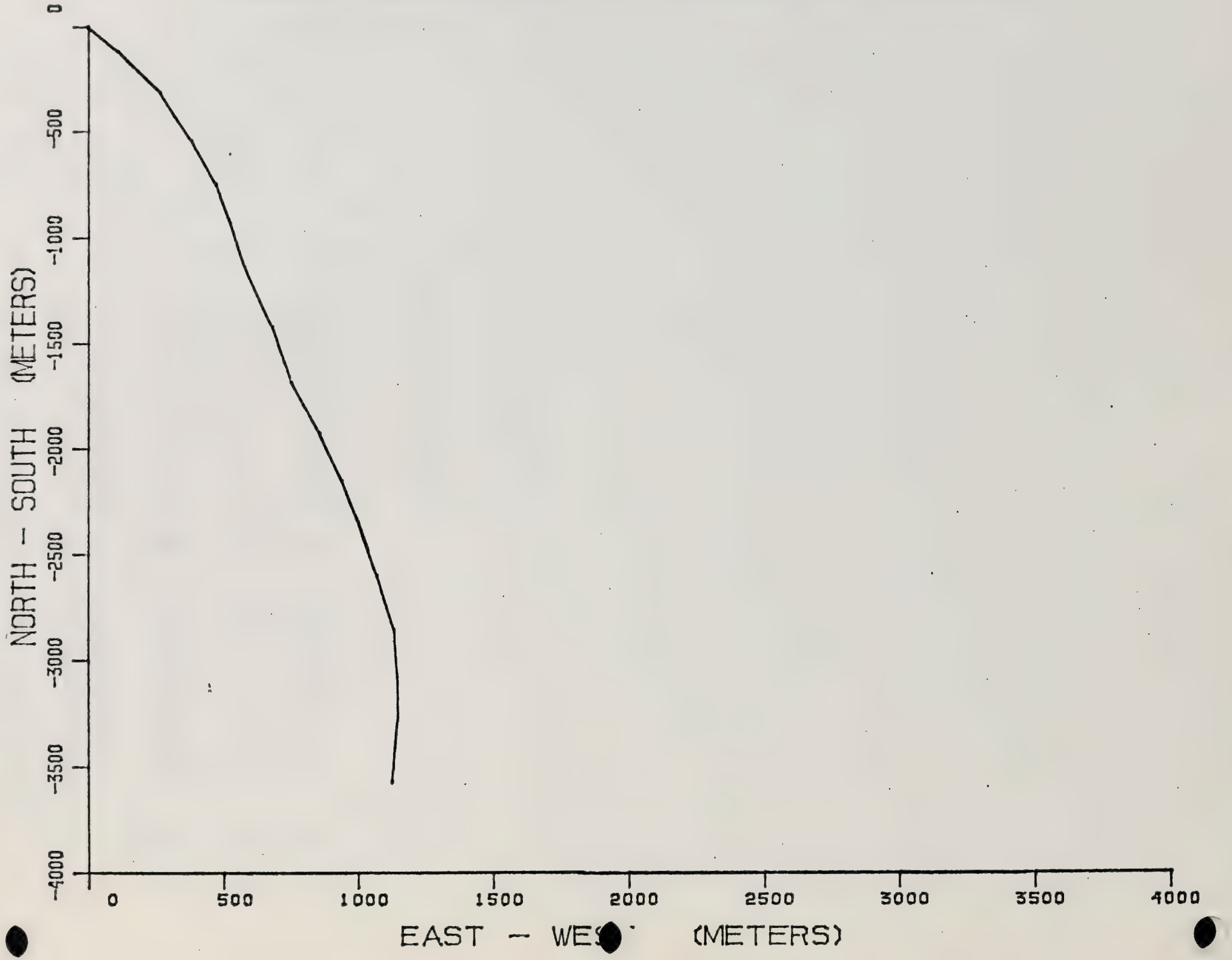
No Data taken.

```
C-8 PINAL SOUNDING                    RUN ON 06/JUL/78

SOUNDING DATE  4-10-78

BALLOON RELEASED 1330 CST


BASE LINE ANGLE             258.0
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0

                THEODOLITE #1            THEODOLITE #2


    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0          .0         .0            78.0       -.0        .0
     .5       137.5       40.1            82.9       3.5       8.2
    1.0       139.9       33.1            88.7       7.7       6.7
    1.5       144.8       29.7            95.4      10.1       5.2
    2.0       147.9       30.4           100.2      14.5       3.7
    2.5       150.7       31.4           104.8      16.5       2.2
    3.0       153.1       32.5           109.4      19.4        .8
    3.5       154.5       32.3           114.4      22.6       -.9
    4.0       156.0       32.0           119.0      23.5      -2.8
    4.5       156.1       31.7           122.1      24.6      -4.7
    5.0       156.5       32.2           124.8      26.0      -6.6
    5.5       157.0       32.2           127.1      26.0      -8.5
    6.0       157.7       31.9           129.6      27.2      -10.
    6.5       158.4       31.6           132.0      27.7      -12.
    7.0       159.6       31.5           134.3      28.2      -13.
    7.5       160.8       31.1           136.4      28.5      -15.
    8.0       162.5       30.7           139.3      28.8      -16.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

    1       20.7        5.7
    2       70.4        6.9
    3       42.9        8.1
    4      216.8        9.3
    5      133.2       10.3
    6      134.2       11.5
    7      296.1       13.2
    8      202.4       14.8
    9      235.8       16.4
   10      250.3       17.9
   11      110.0       19.1
   12      260.4       20.8
   13      294.0       22.4
   14      310.3       23.7
   15      367.9       24.8
   16      401.5       26.3

          HEIGHT  DIRECTION  SPEED  TEMP
           FEET    DEGREES   FT/SEC

           466.      320      22.5   8.2
           896.      328      27.1   6.7
  1256.       335        26.3   5.2
  1783.       341        22.5   3.7
  2191.       345        22.2   2.2
  2733.       343        28.2    .8
  3409.       343        31.3   -.9
  3883.       341        29.2  -2.8
  4388.       339        27.4  -4.7
  4979.       342        24.1  -6.6
  5317.       344        25.4  -8.5
  5875.       346        28.9 -10.4
  6356.       351        26.5 -12.3
  6767.       359        23.3 -13.5
  7078.         2        27.2 -14.7

 HEIGHT   DIRECTION   SPEED   TEMP
 METERS    DEGREES    M/SEC

   142.       320         6.9   8.2
   273.       328         8.3   6.7
   383.       335         8.0   5.2
   543.       341         6.9   3.7
   668.       345         6.8   2.2
   833.       343         8.6    .8
  1039.       343         9.5   -.9
  1184.       341         8.9  -2.8
  1338.       339         8.4  -4.7
  1518.       342         7.3  -6.6
  1621.       344         7.7  -8.5
  1791.       346         8.8 -10.4
  1937.       351         8.1 -12.3
  2063.       359         7.1 -13.5
  2157.         2         8.3 -14.7
```

C–B SOUNDING – PLOTTED ON 06/JUL/78

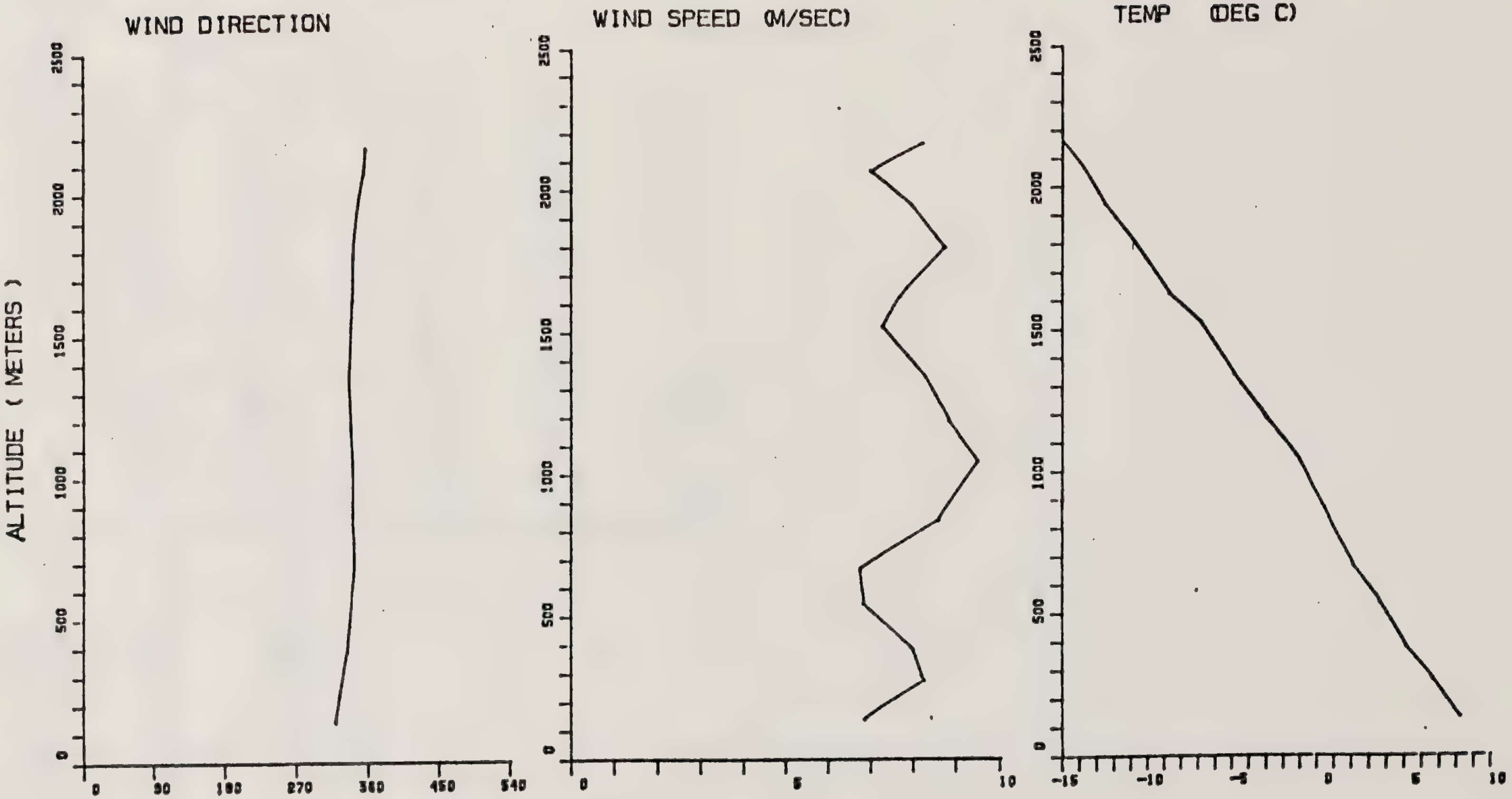
TIME 1330 DATE 4/10/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 06/JUL/78

TIME 1330 DATE 4/10/78



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C-8 PIBAL SOUNDING                       RUN ON 07/JUL/78

SOUNDING DATE  4-12-76

BALLOON RELEASED  645 CST

BASE LINE ANGLE             258.0
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0

               THEODOLITE #1           THEODOLITE #2

    TIME     AZIMUTH  ELEVATION        AZIMUTH  ELEVATION     TEMP
      .0          .0         .0           78.0        -.0       .0
      .5        77.1       65.5           78.2        3.9      3.7
     1.0        78.6       65.9           78.2        5.7      3.4
     1.5        66.7       75.4           77.8        8.4      3.1
     2.0        69.2       86.6           76.0       12.0      2.9
     2.5       247.1       72.6           79.0       16.6      2.6
     3.0       240.6       60.1           82.1       21.4      2.2
     3.5       236.4       53.1           85.1       26.0      1.7
     4.0       238.0       51.4           67.2       30.4      1.2
     4.5       237.7       51.5           86.3       34.6       .8
     5.0       237.8       53.5           89.3       37.9       .3
     5.5       235.2       57.0           90.1       34.8      -.3
     6.0       227.4       61.5           91.1       40.3      -.9
     6.5       213.6       67.3           91.3       39.1     -1.5
     7.0       191.8       71.2           91.7       38.0     -2.1
     7.5       169.6       71.9           92.1       36.6     -2.7
     8.0       146.2       68.7           92.1       35.0     -3.3
     8.5       127.5       63.5           91.4       33.2     -4.0
     9.0       115.2       57.5           90.5       31.1     -4.6
     9.5       105.2       52.3           88.8       29.5     -5.2
    10.0        97.5       47.7           86.7       28.1     -5.8
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO      ERROR

     1     23.4       5.5
     2     17.0       5.7
     3     19.8       5.9
     4     11.6       6.1
     5      7.0       6.0
     6      1.2       6.1
     7     21.4       6.2
     8     27.5       6.4
     9     66.9       6.7
    10     35.0       7.0
    11     24.6       7.4
    12     56.2       8.0
    13     61.6       8.6
    14     61.2       9.3
    15     25.9      10.0
    16     92.6      10.9
    17    145.7      12.2
    18    157.6      13.5
    19    142.7      15.1
```

20 137.9 16.9

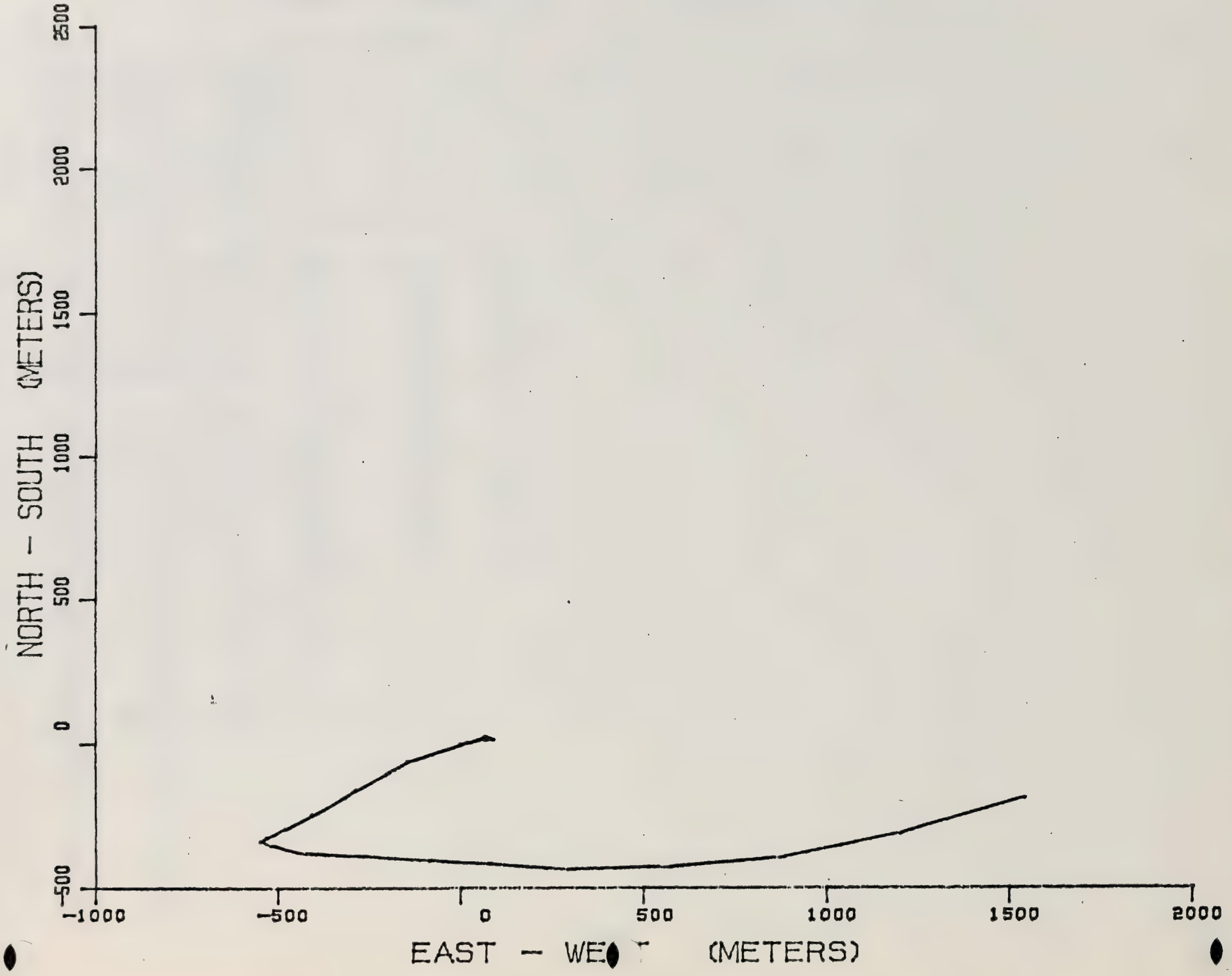
HEIGHT FEET	DIRECTION DEGREES	SPEED FT/SEC	TEMP
488.	258	5.0	3.7
677.	197	.7	3.4
943.	81	3.8	3.1
1279.	67	12.4	2.9
1586.	61	19.0	2.6
1852.	54	17.7	2.2
2068.	55	13.0	1.7
2317.	57	8.1	1.2
2581.	57	4.5	.8
2864.	330	1.8	.3
3153.	288	7.2	-.3
3454.	279	13.7	-.9
3731.	275	18.3	-1.5
4044.	275	18.7	-2.1
4257.	275	20.9	-2.7
4501.	272	27.1	-3.3
4786.	266	31.6	-4.0
5007.	259	35.0	-4.6
5319.	252	38.3	-5.2

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
149.	258	1.5	3.7
206.	197	.2	3.4
288.	81	1.2	3.1
390.	67	3.8	2.9
483.	61	5.8	2.6
564.	54	5.4	2.2
630.	55	4.0	1.7
706.	57	2.5	1.2
787.	57	1.4	.8
873.	330	.5	.3
961.	288	2.2	-.3
1053.	279	4.2	-.9
1137.	275	5.6	-1.5
1233.	275	5.7	-2.1
1297.	275	6.4	-2.7
1372.	272	8.3	-3.3
1459.	266	9.6	-4.0
1526.	259	10.7	-4.6
1621.	252	11.7	-5.2

C-B SOUNDING - PLOTTED ON 07/JUL/78

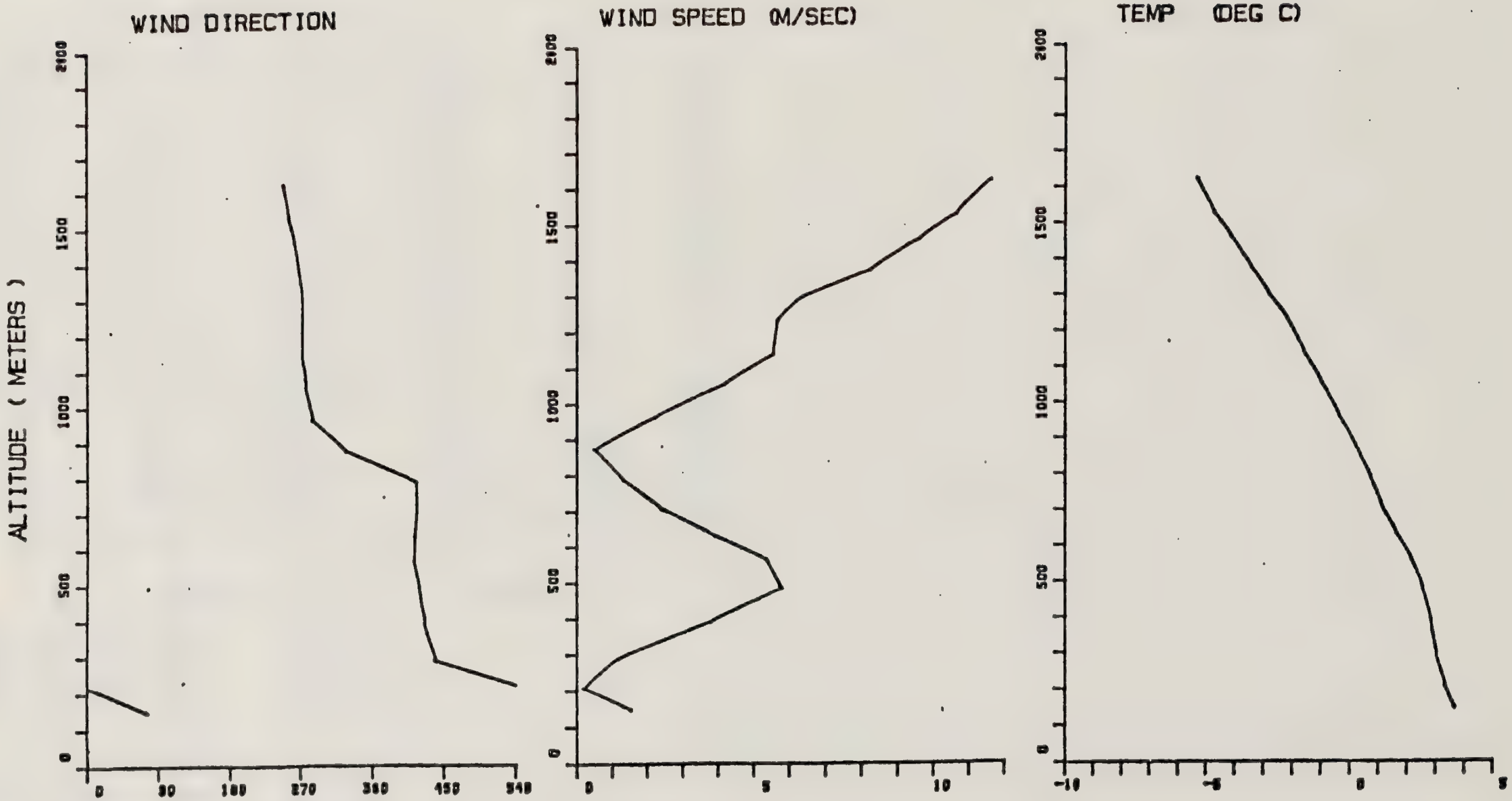
TIME 645 DATE 4/12/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 07/JUL/78

TIME 645 DATE 4/12/78



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C-B PIBAL SOUNDING                         RUN ON 06/JUL/78

SOUNDING DATE  4-12-78

BALLOON RELEASED 1310 CST

BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           90.0
BASE LINE HEIGHT (FT)        100.0

              THEODOLITE #1             THEODOLITE #2

   TIME       AZIMUTH  ELEVATION        AZIMUTH  ELEVATION   TEMP
    .0           .0        .0            78.0       -.0         .0
   1.5         68.5      38.5            77.3       4.8       22.8
   3.0         73.6      40.5            77.1       8.2       17.5
   4.5         82.2      48.1            78.4      12.9       15.5
   6.0         89.2      51.1            80.1      15.5       13.5
   7.5         91.2      53.6            81.0      19.8       11.6
   9.0         90.5      55.5            81.1      23.4        9.6
  10.5         89.2      56.4            81.9      25.9        7.6
  12.0         92.0      57.4            82.0      28.5        5.6
  13.5         92.1      56.2            82.4      29.5        3.7
  15.0         93.2      56.0            83.2      30.6        1.7
  16.5         92.9      56.3            82.9      32.4        -.3
  18.0         91.5      55.0            83.2      33.3       -2.1
  19.5         91.0      53.7            83.2      33.6       -3.8
  21.0         91.7      52.5            83.9      33.8       -5.6
  22.5         92.7      51.3            83.9      33.9       -7.4
  24.0         92.6      50.2            85.1      34.1       -9.1
  25.5         91.7      49.3            84.8      34.1       -10.
  27.0         91.0      47.3            84.7      33.2       -12.
  28.5         90.5      45.2            84.7      32.4       -13.
  30.0         91.6      42.7            85.8      31.5       -14.
  31.5         92.6      40.1            86.9      30.2       -15.
  33.0         93.5      37.2            87.8      28.5       -16.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1       52.1        6.3
     2        9.5        7.4
     3       62.8        8.2
     4       63.4        8.7
     5       77.6        9.9
     6       94.2       11.1
     7       30.4       12.1
     8      132.9       13.1
     9      150.6       14.1
    10      141.6       14.9
    11      233.2       16.0
    12      182.3       17.6
    13      216.6       18.8
    14      224.3       19.9
    15      402.2       20.7
    16      244.9       22.5
    17      266.4       23.6
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18      275.4       24.7
19      301.5       26.3
20      336.5       28.6
21      348.0       30.6
22      393.8       32.2

      HEIGHT   DIRECTION   SPEED   TEMP
       FEET     DEGREES    FT/SEC

        614.      253        7.0   22.8
       1069.      274        4.4   17.5
       1698.      305        3.1   15.5
       2064.      295        3.3   13.5
       2783.      273        4.0   11.6
       3469.      265        3.6    9.6
       4052.      277        3.2    7.6
       4622.      279        3.7    5.6
       5041.      278        3.9    3.7
       5425.      275        3.5    1.7
       6015.      264        5.7    -.3
       6682.      264        6.8   -2.1
       7109.      272        6.0   -3.8
       7509.      278        5.3   -5.6
       7762.      277        6.9   -7.4
       8404.      269        7.5   -9.1
       8770.      261        7.0  -10.5
       8938.      264        9.2  -11.6
       9259.      274       12.5  -12.7
       9719.      280       14.4  -13.8
       9936.      282       13.6  -14.9

      HEIGHT   DIRECTION   SPEED   TEMP
      METERS    DEGREES    M/SEC

        187.      253        2.1   22.8
        326.      274        1.3   17.5
        517.      305         .9   15.5
        629.      295        1.0   13.5
        848.      273        1.2   11.6
       1057.      265        1.1    9.6
       1235.      277        1.0    7.6
       1409.      279        1.1    5.6
       1536.      278        1.2    3.7
       1654.      275        1.1    1.7
       1833.      264        1.7    -.3
       2037.      264        2.1   -2.1
       2167.      272        1.8   -3.8
       2289.      278        1.6   -5.6
       2366.      277        2.1   -7.4
       2561.      269        2.3   -9.1
       2673.      261        2.1  -10.5
       2724.      264        2.8  -11.6
       2822.      274        3.8  -12.7
       2962.      280        4.4  -13.8
       3028.      282        4.1  -14.9
```
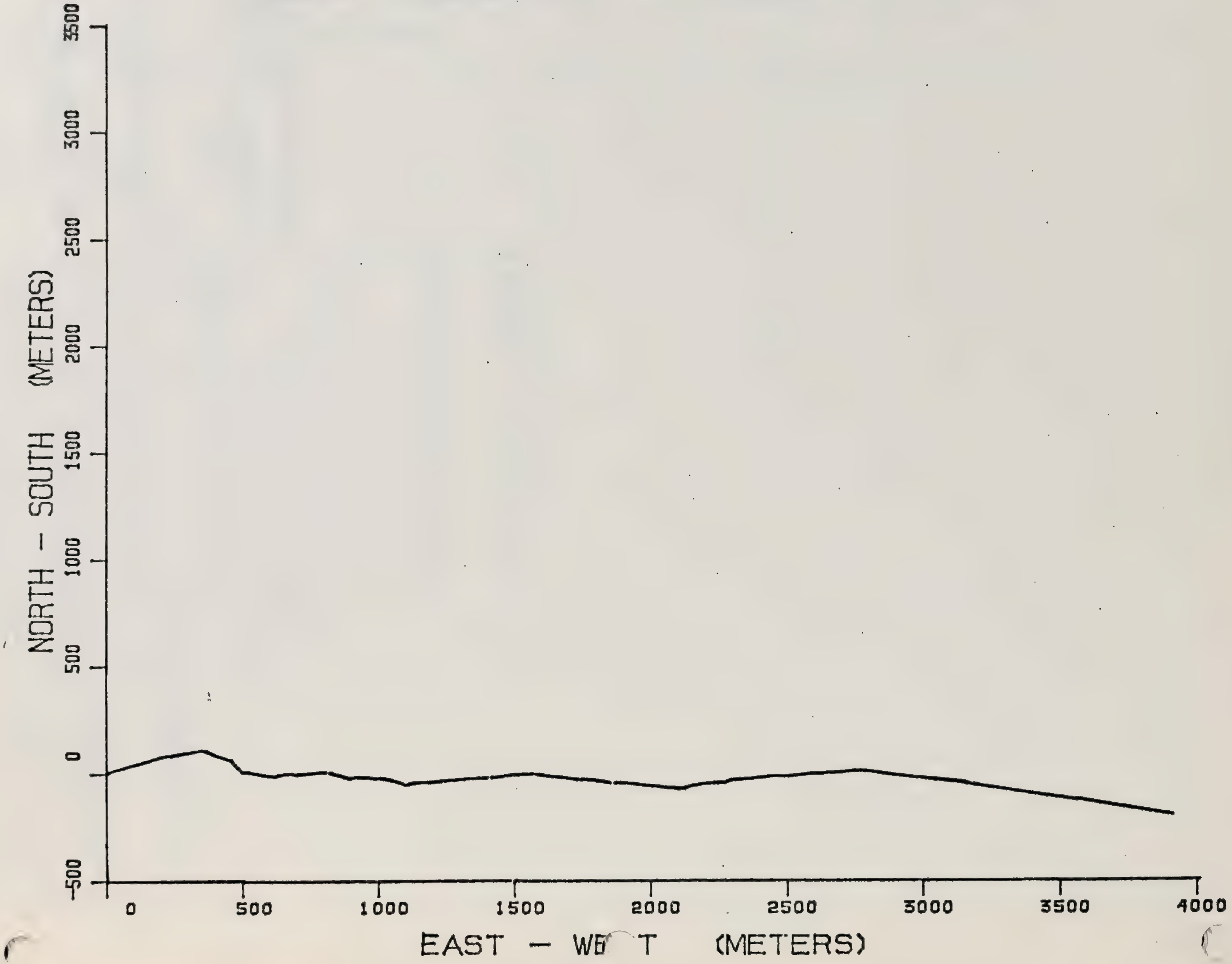

C--B SOUNDING - PLOTTED ON 06/JUL/78

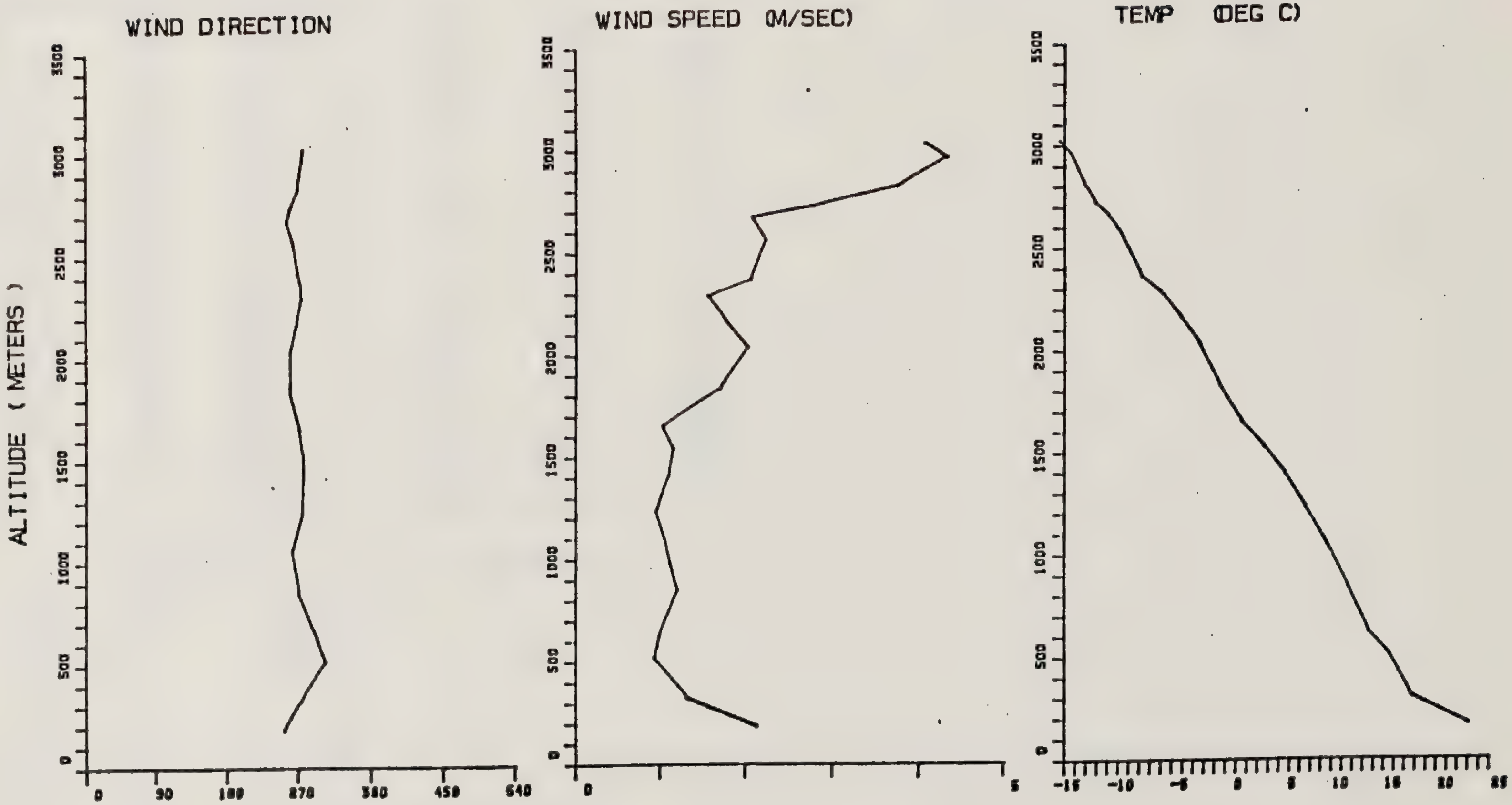
TIME 1310 DATE 4/12/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C–B SOUNDING – PLOTTED ON 06/JUL/78

TIME 1310 DATE 4/12/78



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C-8 PIBAL SOUNDING                         RUN ON 05/JUL/78

SOUNDING DATE  8-14-78

BALLOON RELEASED  650 CST


BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

               THEODOLITE #1              THEODOLITE #2


    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0          .0        .0             78.0       -.0        .0
     .5        30.2      78.7             78.6       3.7       4.8
    1.0       360.2      75.7             77.4       5.2       5.0
    1.5         8.8      52.0             73.0       8.9       5.3
    2.0         7.0      48.5             65.6       9.6       6.8
    2.5         6.5      28.9             58.2      11.1       7.5
    3.0         9.0      25.3             52.1      11.9       7.4
    3.5        12.9      23.5             49.0      12.5       7.3
    4.0        15.4      22.8             46.2      13.2       7.1
    4.5        16.6      21.7             45.8      13.2       6.8
    5.0        21.7      20.6             44.1      13.0       6.2
    5.5        24.8      19.8             44.0      13.0       5.3
    6.0        28.6      19.4             44.2      13.1       4.4
    6.5        29.8      18.7             44.6      12.9       3.5
    7.0        32.0      18.3             45.0      12.8       2.6
    7.5        34.0      17.8             45.4      12.8       1.8
    8.0        35.4      17.5             45.9      12.8        .9
    8.5        37.1      17.2             46.2      12.8        .0
    9.0        38.3      17.0             46.5      12.8       -.9
    9.5        39.4      16.8             46.9      12.6      -1.7
   10.0        40.3      16.5             47.2      12.5      -2.6
   10.5        41.1      16.3             47.6      12.4      -3.4
   11.0        42.0      16.0             48.0      12.3      -4.3
   11.5        43.0      15.8             48.5      12.2      -5.2
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO       ERROR

      1     124.3        5.2
      2      89.4        5.3
      3     185.1        6.1
      4     271.5        6.8
      5      80.7        8.3
      6      19.6       10.1
      7       8.8       11.8
      8      37.7       13.8
      9      19.7       15.2
     10     137.1       18.0
     11     156.2       20.3
     12     257.2       23.7
     13     208.3       24.6
     14     269.8       27.0
     15     280.5       29.8
     16     274.3       31.7
```

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 17      342.9      35.2
 18      393.4      37.9
 19      495.1      39.7
 20      526.1      42.1
 21      553.1      43.6
 22      569.8      46.0
 23      623.6      48.2

        HEIGHT  DIRECTION  SPEED   TEMP
         FEET    DEGREES   FT/SEC

          440.      180       2.3   4.8
          581.      186      10.0   5.0
          906.      186      17.3   5.3
         1242.      185      28.8   6.8
         1351.      190      36.9   7.5
         1865.      200      35.7   7.4
         1964.      205      36.0   7.3
         2343.      211      32.2   7.1
         2526.      216      39.9   6.8
         2909.      218      48.2   6.2
         3226.      225      54.3   5.3
         3749.      228      41.8   4.4
         3800.      231      32.5   3.5
         4110.      229      49.9   2.6
         4483.      231      44.8   1.8
         4717.      231      50.9    .9
         5201.      230      58.9    .0
         5571.      233      43.2   -.9
         5763.      235      40.3  -1.7
         6029.      235      37.0  -2.6
         6178.      237      37.9  -3.4
         6439.      238      44.9  -4.3

        HEIGHT  DIRECTION  SPEED   TEMP
        METERS   DEGREES   M/SEC

          134.      180        .7   4.8
          177.      186       3.0   5.0
          276.      186       5.3   5.3
          379.      185       8.8   6.8
          412.      190      11.9   7.5
          508.      200      10.9   7.4
          599.      205      11.0   7.3
          714.      211       9.8   7.1
          770.      216      12.2   6.8
          887.      218      14.7   6.2
          983.      225      16.6   5.3
         1143.      228      12.7   4.4
         1158.      231       9.9   3.5
         1253.      229      15.2   2.6
         1366.      231      13.7   1.8
         1438.      231      15.5    .9
         1585.      230      18.0    .0
         1698.      233      13.2   -.9
         1756.      235      12.3  -1.7
         1836.      235      11.3  -2.6
         1883.      237      11.6  -3.4
```
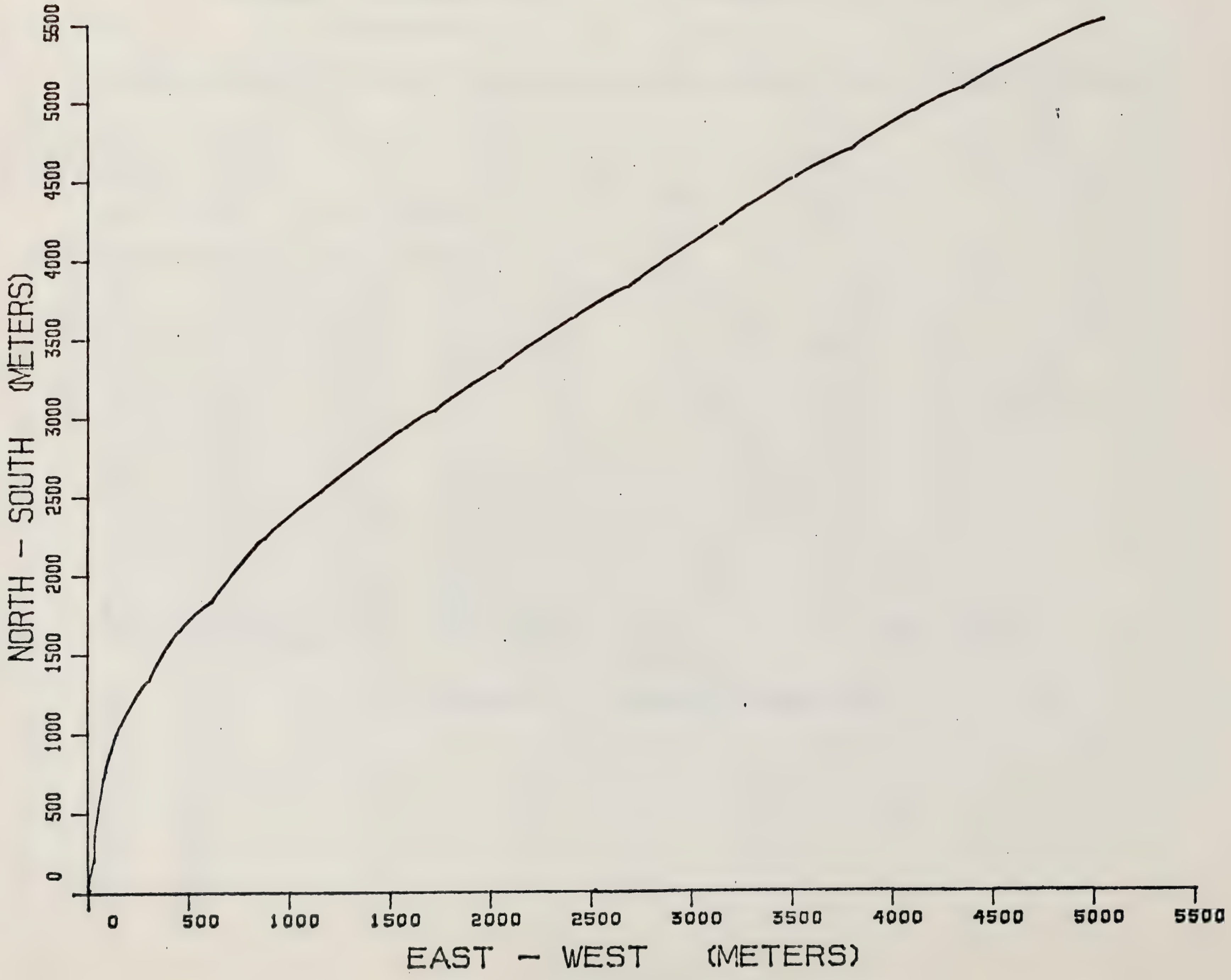

1963. 258 13.7 -4.3

C–B SOUNDING – PLOTTED ON 05/JUL/78

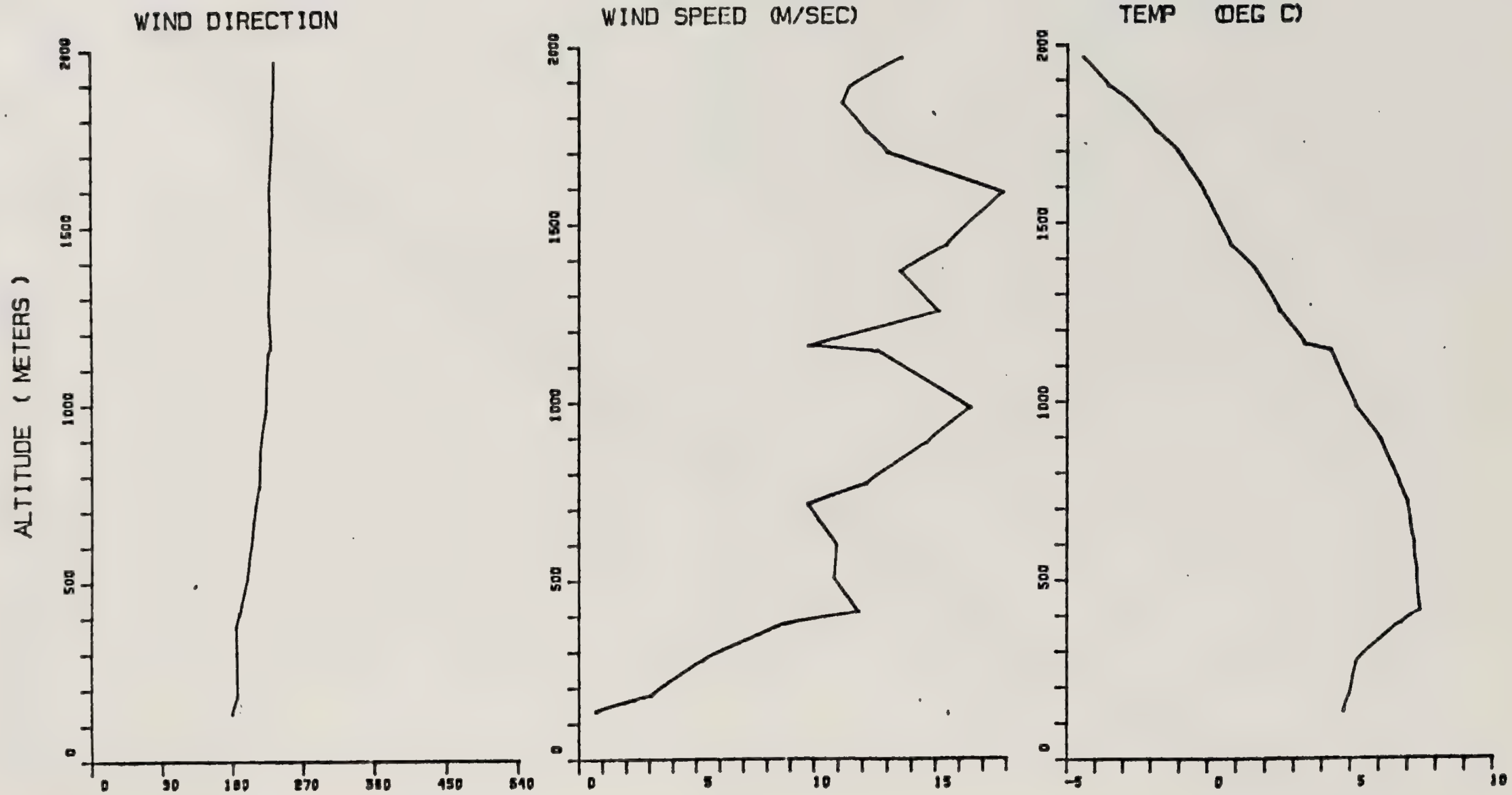
TIME 650 DATE 4/14/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C—B SOUNDING — PLOTTED ON 05/JUL/78

TIME 650 DATE 4/14/78



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C-B PIBAL SOUNDING                         RUN ON 06/JUL/78

SOUNDING DATE  4-14-78

BALLOON RELEASED 1345 CST

BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           21.0
BASE LINE HEIGHT (FT)        100.0

                 THEODOLITE #1            THEODOLITE #2

     TIME       AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
      .0           .0         .0            78.0       -.0         .0
      .4         59.5       21.7            76.0       3.1       14.3
      .7         59.1       17.4            73.5       4.6       13.7
     1.0         53.7       18.1            70.9       6.2       13.1
     1.4         51.6       18.7            67.0       7.7       11.5
     1.7         50.7       20.0            64.9       9.5        9.8
     2.1         47.9       22.6            62.4      11.9        8.2
     2.4         45.2       25.2            59.9      14.1        6.5
     2.8         44.2       26.7            58.2      15.0        4.9
     3.2         42.4       27.0            56.2      16.9        3.3
     3.5         42.6       27.3            55.5      17.7        1.6
     3.8         41.1       27.8            54.1      18.4         .0
     4.2         39.9       28.9            52.7      19.7       -1.5
     4.6         38.5       30.1            51.4      21.0       -2.9
     4.9         37.7       30.7            50.2      21.9       -4.4
     5.2         36.2       30.6            48.2      22.4       -5.8
     5.6         35.1       29.8            47.0      22.3       -7.3
     5.9         33.9       29.1            45.4      22.0       -8.3
     6.3         33.0       28.5            44.2      21.8       -8.9
     6.6         32.2       27.4            43.0      21.2       -9.4
     7.0         31.4       26.6            41.8      20.7       -10.
     7.4         30.7       26.2            40.5      20.7       -11.
     7.7         30.4       25.5            39.7      20.6       -12.
     8.0         30.7       25.0            39.4      20.3       -13.
     8.4         31.2       24.7            39.1      20.0       -14.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME       RHO        ERROR

     1       103.7         6.5
     2        96.0         8.3
     3       142.9         9.3
     4         6.2        11.7
     5        21.5        13.7
     6        27.7        15.2
     7        86.6        16.6
     8       264.9        17.5
     9       133.2        19.9
    10       150.6        21.4
    11       171.2        22.3
    12       192.7        23.6
    13       196.3        24.6
    14       230.2        26.1
    15       287.2        28.2
```

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16      233.9       29.5
17      307.2       31.1
18      332.8       32.5
19      355.7       34.1
20      422.1       35.7
21      470.9       38.3
22      407.9       41.2
23      469.4       43.5
24      649.8       46.2

      HEIGHT  DIRECTION  SPEED  TEMP
       FEET    DEGREES   FT/SEC

        389.     239      47.3  14.3
        640.     230      38.7  13.7
        872.     223      47.5  13.1
       1336.     226      58.2  11.5
       1815.     219      45.0   9.8
       2410.     207      37.8   8.2
       3024.     203      29.0   6.5
       3400.     211      41.1   4.9
       4118.     217      48.4   3.3
       4569.     211      29.3   1.6
       4885.     197      27.5    .0
       5457.     196      27.2  -1.5
       5972.     198      28.4  -2.9
       6521.     202      44.5  -4.4
       7124.     200      46.6  -5.8
       7358.     197      41.8  -7.3
       7618.     196      42.6  -8.3
       7855.     199      44.6  -8.9
       8006.     198      47.5  -9.4
       8167.     200      56.0 -10.0
       8716.     205      73.2 -11.0
       9232.     210      68.4 -12.0
       9588.     215      64.9 -13.1

      HEIGHT  DIRECTION  SPEED  TEMP
      METERS   DEGREES   M/SEC

        119.     239      14.4  14.3
        195.     230      11.8  13.7
        266.     223      14.5  13.1
        408.     226      17.7  11.5
        553.     219      13.7   9.8
        735.     207      11.5   8.2
        922.     203       8.8   6.5
       1036.     211      12.5   4.9
       1255.     217      14.8   3.3
       1393.     211       8.9   1.6
       1489.     197       8.4    .0
       1663.     196       8.3  -1.5
       1820.     198       8.7  -2.9
       1987.     202      13.6  -4.4
       2171.     200      14.2  -5.8
       2243.     197      12.7  -7.3
       2322.     196      13.0  -8.3
       2394.     199      13.6  -8.9
```
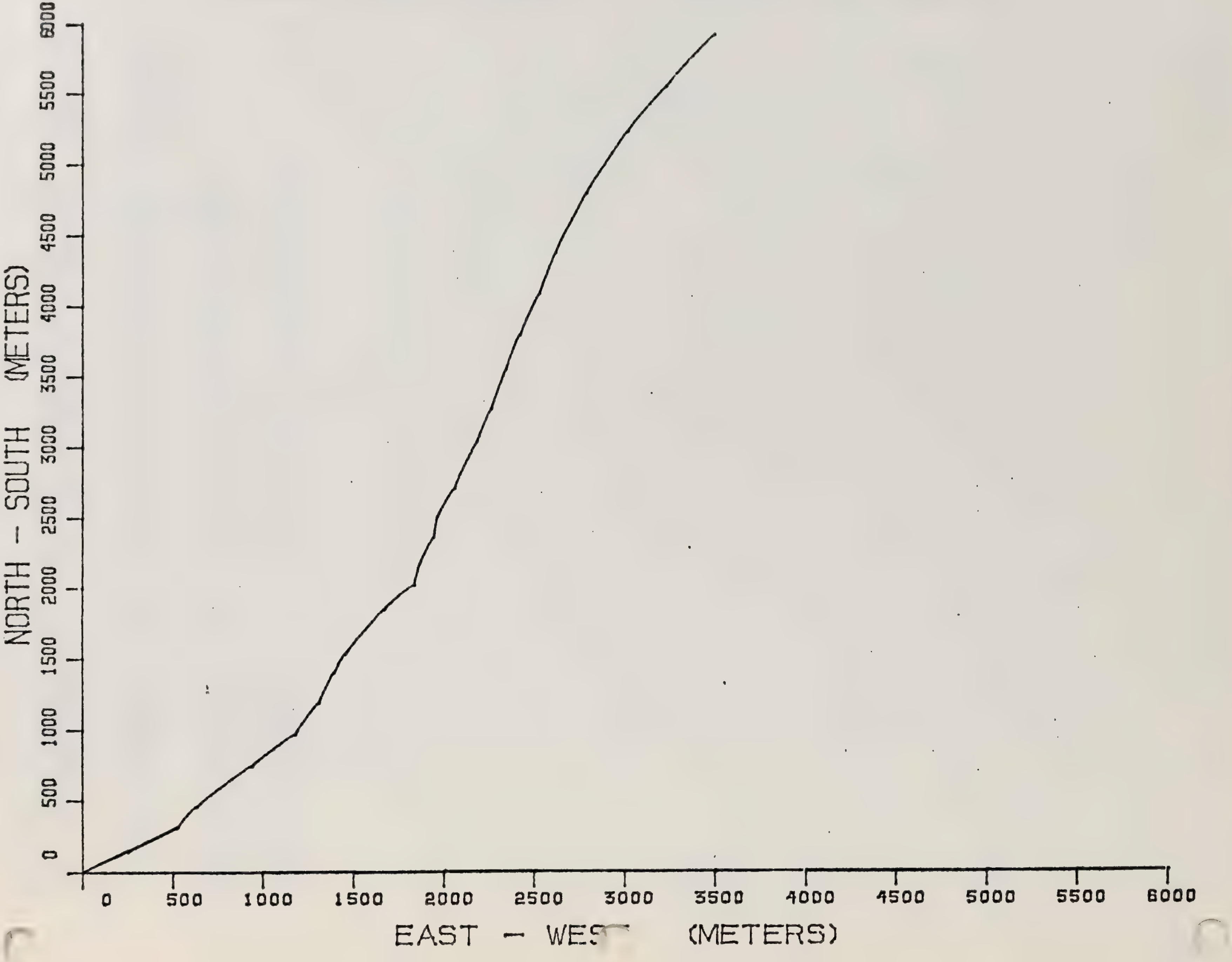

```
2440.     198      14.5  -9.4
2489.     200      17.7 -10.0
2657.     205      22.3 -11.0
2814.     210      20.8 -12.0
2922.     215      19.8 -13.1
```

C–B SOUNDING – PLOTTED ON 06/JUL/78

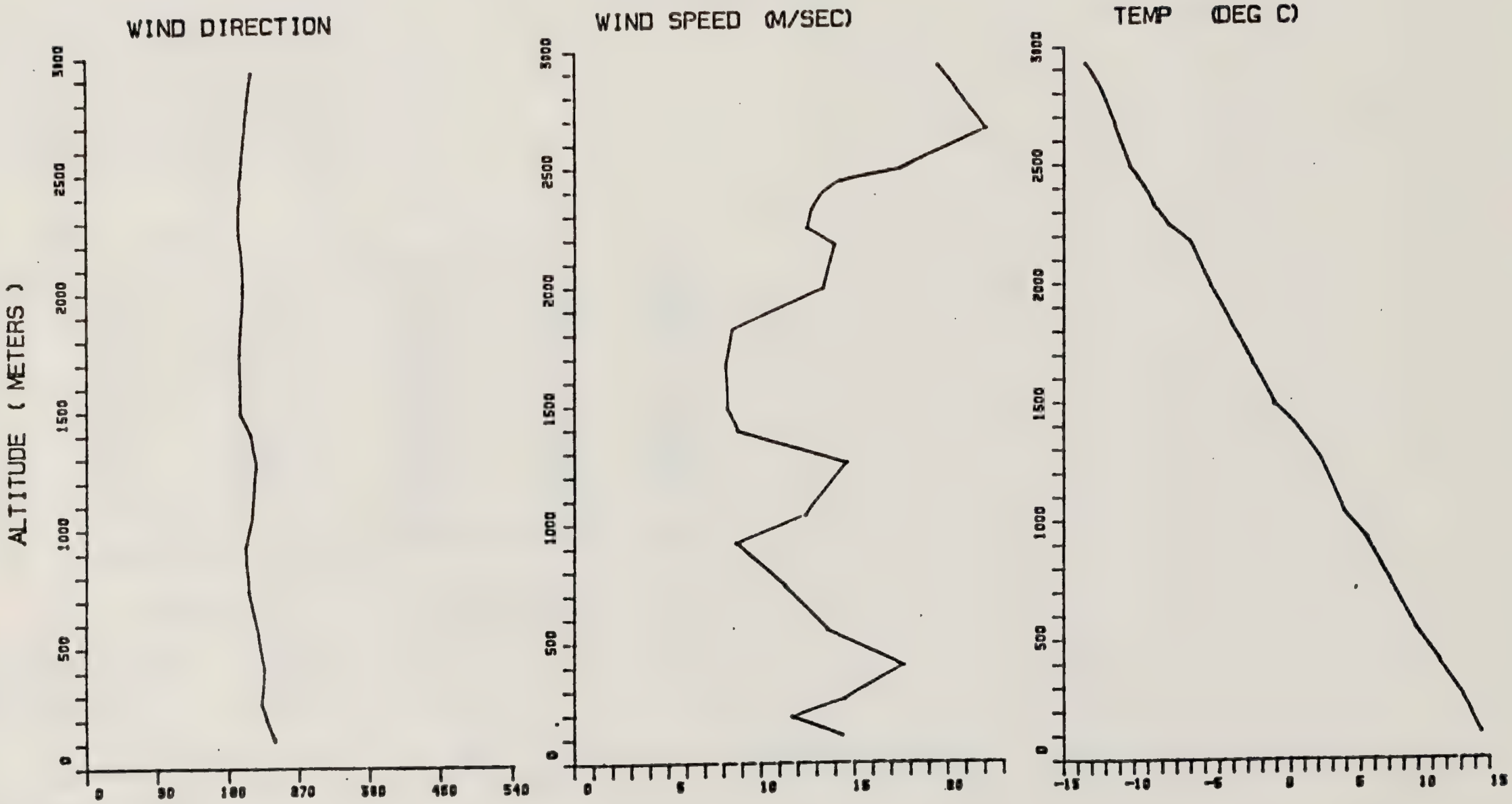
TIME 1345 DATE 4/14/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 06/JUL/78

TIME 1345 DATE 4/14/78



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C-B PIBAL SOUNDING                         RUN ON 06/JUL/78

SOUNDING DATE  4-17-78

BALLOON RELEASED  650 CST

BASE LINE ANGLE            258.0
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

                THEODOLITE #1            THEODOLITE #2

   TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
    .0            .0         .0           78.0        -.0      .0
    .5         108.1       30.1           81.9        2.8    -1.0
   1.0         114.8       25.1           84.8        5.3    -1.9
   1.5         114.2       23.6           88.0        7.8    -2.9
   2.0         114.0       22.7           90.5        8.8    -3.8
   2.5         112.7       21.7           92.0        9.8    -4.8
   3.0         112.3       22.1           93.7       10.9    -5.8
   3.5         110.1       21.8           94.1       11.5    -6.8
   4.0         109.3       20.8           94.7       11.9    -7.8
   4.5         108.5       20.5           95.4       12.7    -8.7
   5.0         107.6       19.5           95.8       12.4    -9.7
   5.5         107.8       18.6           96.7       12.2    -11.
   6.0         109.2       17.5           97.2       12.3    -12.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1       53.8        6.1
     2       79.7        7.2
     3      131.6        8.8
     4       86.6       10.1
     5      108.5       11.6
     6       62.0       13.2
     7       35.1       14.7
     8       86.4       16.2
     9      131.7       18.3
    10       89.0       19.8
    11       72.1       21.4
    12      302.8       21.2

           HEIGHT  DIRECTION  SPEED  TEMP
            FEET    DEGREES   FT/SEC

            430.      295      23.1  -1.0
            665.      297      26.1  -1.9
           1042.      294      28.3  -2.9
           1315.      291      26.5  -3.8
           1586.      290      27.8  -4.8
           1947.      285      28.1  -5.8
           2242.      281      28.4  -6.8
           2470.      284      32.7  -7.8
           2862.      283      33.3  -8.7
           3011.      286      29.7  -9.7
```

```
 3159.      303       14.5 -10.7

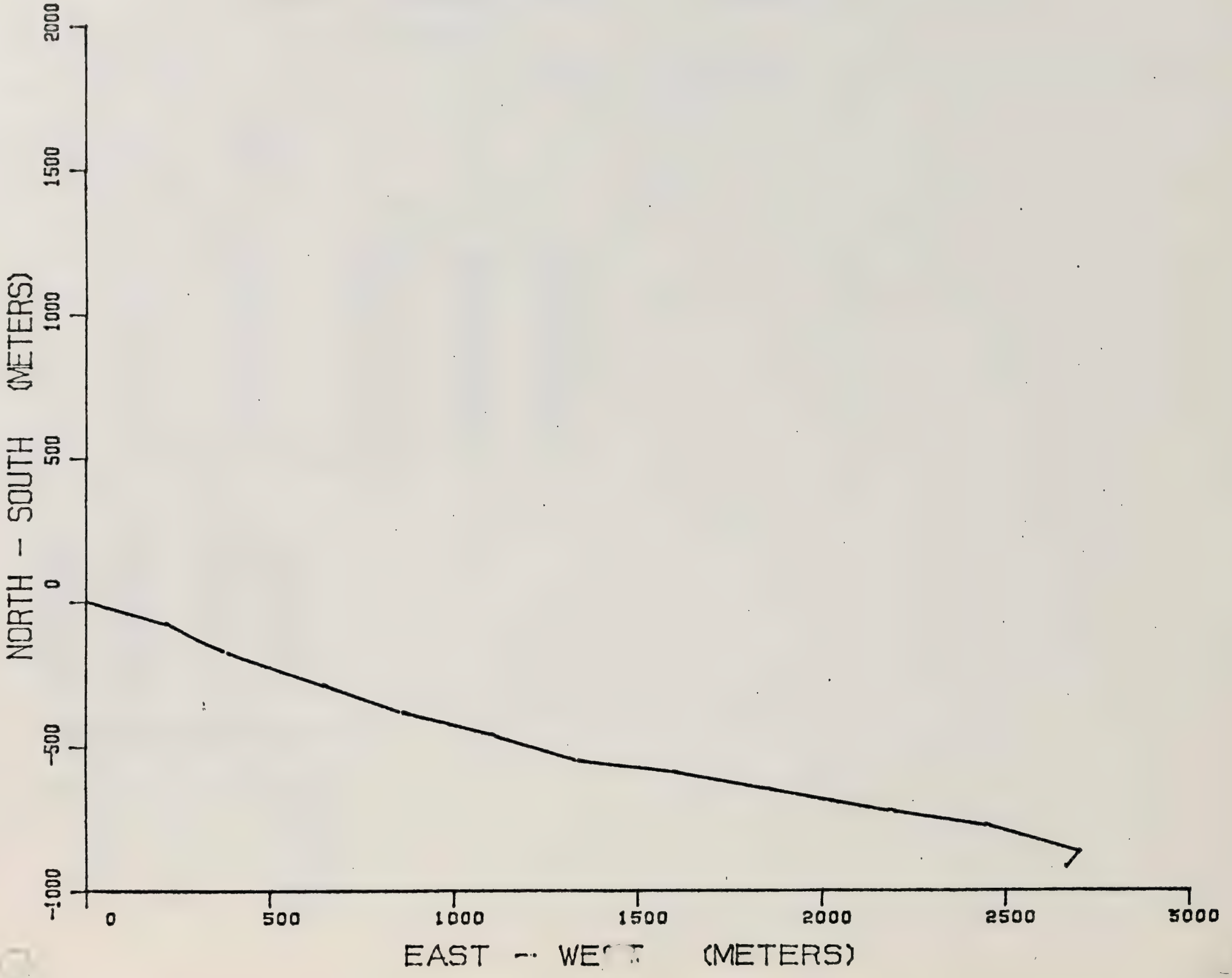
HEIGHT  DIRECTION  SPEED  TEMP
METERS   DEGREES   M/SEC

  131.      295      7.0  -1.0
  203.      297      8.0  -1.9
  318.      294      8.6  -2.9
  401.      291      8.1  -3.8
  483.      290      8.5  -4.8
  594.      285      8.6  -5.8
  684.      281      8.7  -6.8
  753.      284     10.0  -7.8
  872.      283     10.1  -8.7
  918.      286      9.1  -9.7
  963.      303      4.4 -10.7
```

C-B SOUNDING - PLOTTED ON 06/JUL/78

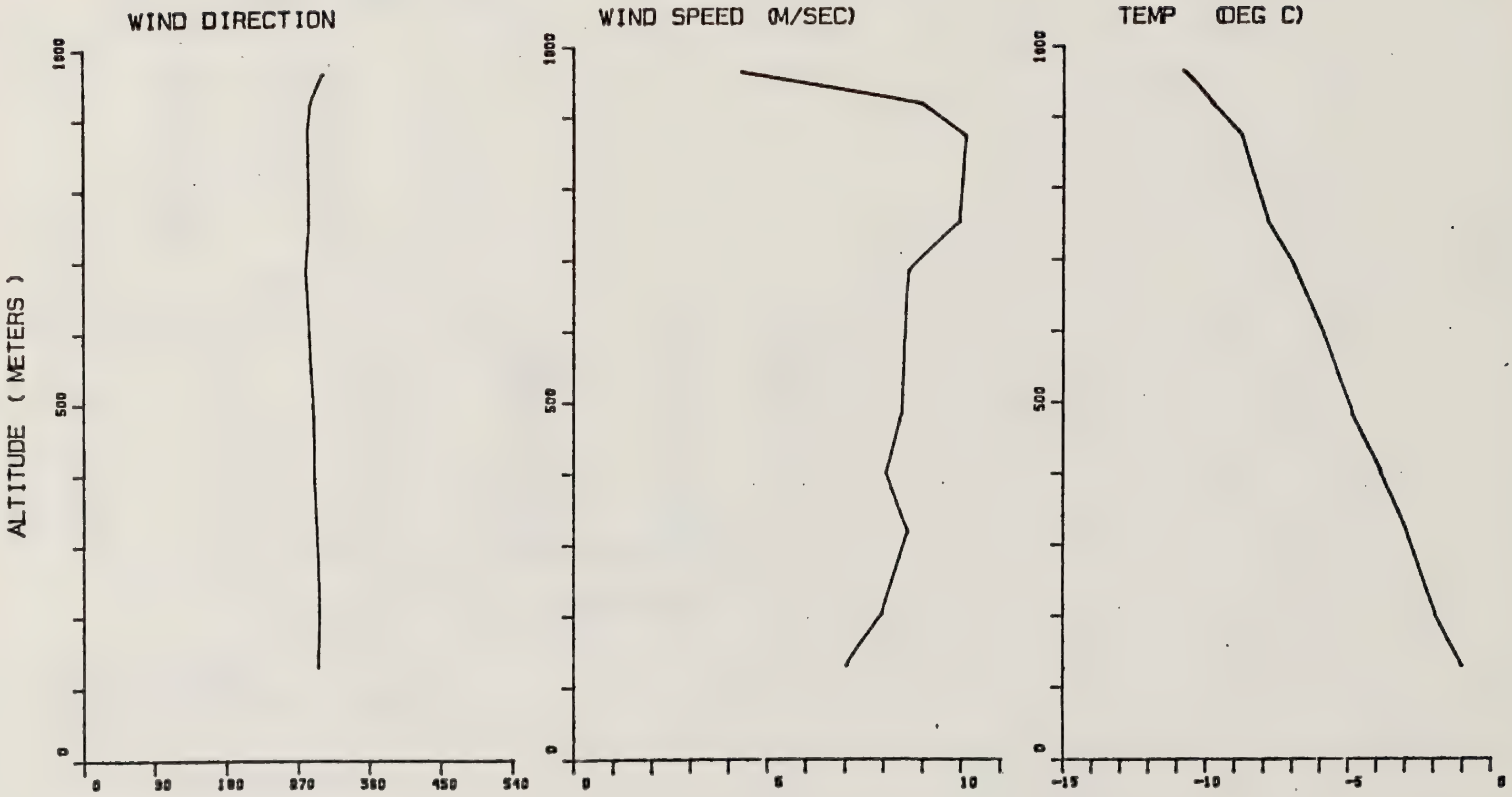
TIME 650 DATE 4/17/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 06/JUL/78

TIME 650 DATE 4/17/78



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C-B PIBAL SOUNDING                     RUN ON 07/JUL/78

SOUNDING DATE  4-17-78

BALLOON RELEASED 1330 CST


BASE LINE ANGLE            258.0
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

                THEODOLITE #1            THEODOLITE #2


    TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION   TEMP
     .0           .0         .0          78.0       -.0        .0
     .5        104.2       19.0          82.0       2.5       2.4
    1.0        107.5       13.2          87.1       4.8        .8
    1.5        107.0       13.8          89.9       5.7       -.3
    2.0        105.5       13.0          91.8       6.5       -.9
    2.5        105.0       13.6          93.2       7.0      -1.5
    3.0        106.6       11.2          94.3       7.6      -2.1
    3.5        106.9       11.1          96.1       7.0      -2.7
    4.0        107.5       11.5          98.0       7.4      -3.3
    4.5        107.9       11.8          99.1       7.3      -4.0
    5.0        108.5       12.5          99.3       7.1      -4.0
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RMU       ERROR

      1       24.4        6.6
      2      151.8        9.3
      3       51.4       11.5
      4       38.3       14.4
      5       28.7       15.4
      6      296.1       17.9
      7       48.7       20.6
      8       78.3       24.1
      9      267.8       25.7
     10      482.5       24.9


        HEIGHT   DIRECTION   SPEED   TEMP
         FEET     DEGREES    FT/SEC

          365.       288       44.2    2.4
          660.       288       47.8     .8
          976.       284       48.9    -.3
         1301.       287       37.0    -.9
         1498.       289       33.8   -1.5
         1616.       288       50.5   -2.1
         1817.       291       59.2   -2.7
         2239.       293       48.6   -3.3
         2421.       322        9.4   -4.0


        HEIGHT   DIRECTION   SPEED   TEMP
        METERS    DEGREES    M/SEC
```
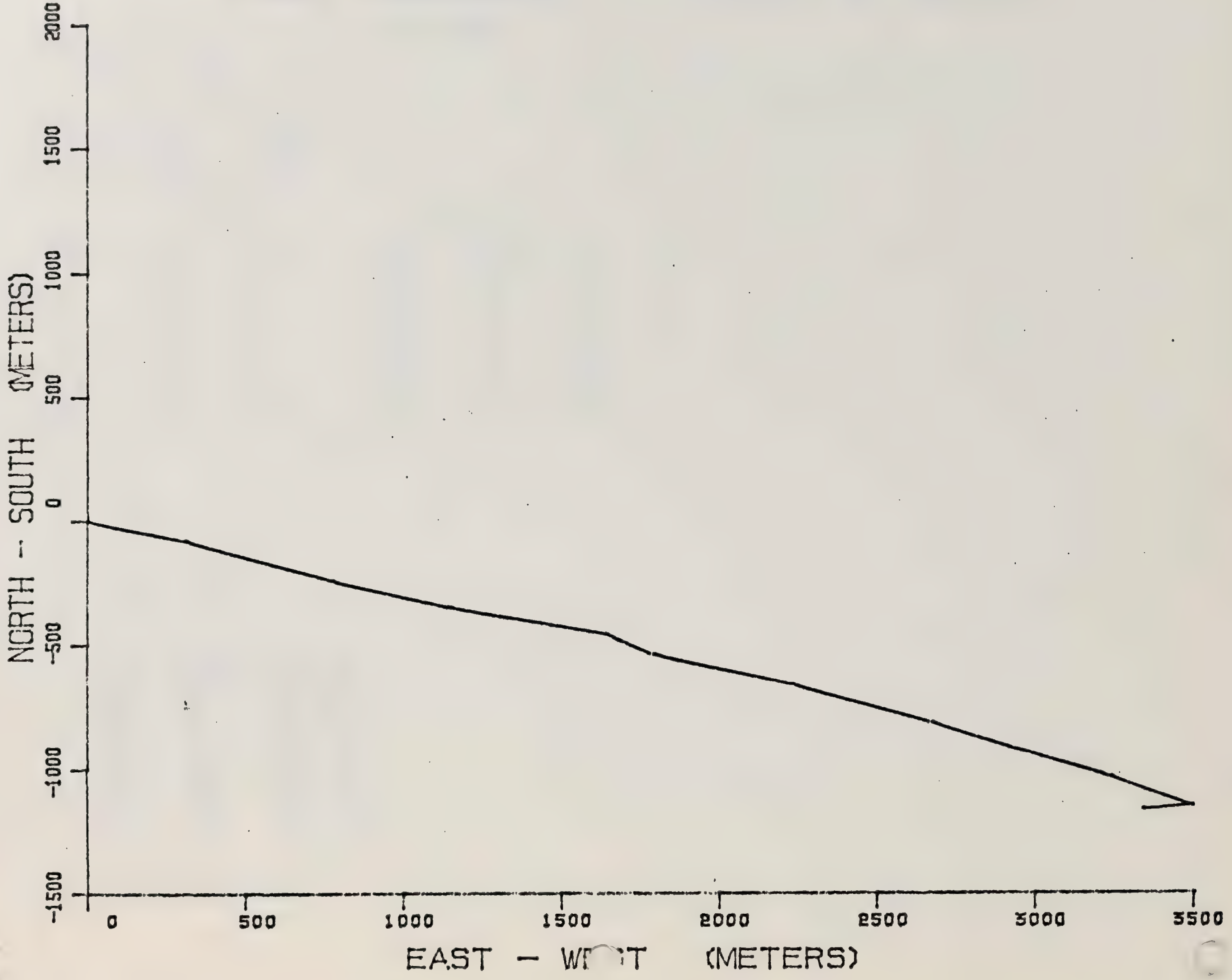

111.	288	13.5	2.4
201.	288	14.6	.8
298.	284	14.9	-.3
397.	287	11.3	-.9
456.	289	10.3	-1.5
493.	288	15.4	-2.1
554.	291	18.0	-2.7
682.	293	14.8	-3.3
738.	322	2.9	-4.0

C-B SOUNDING - PLOTTED ON 07/JUL/78

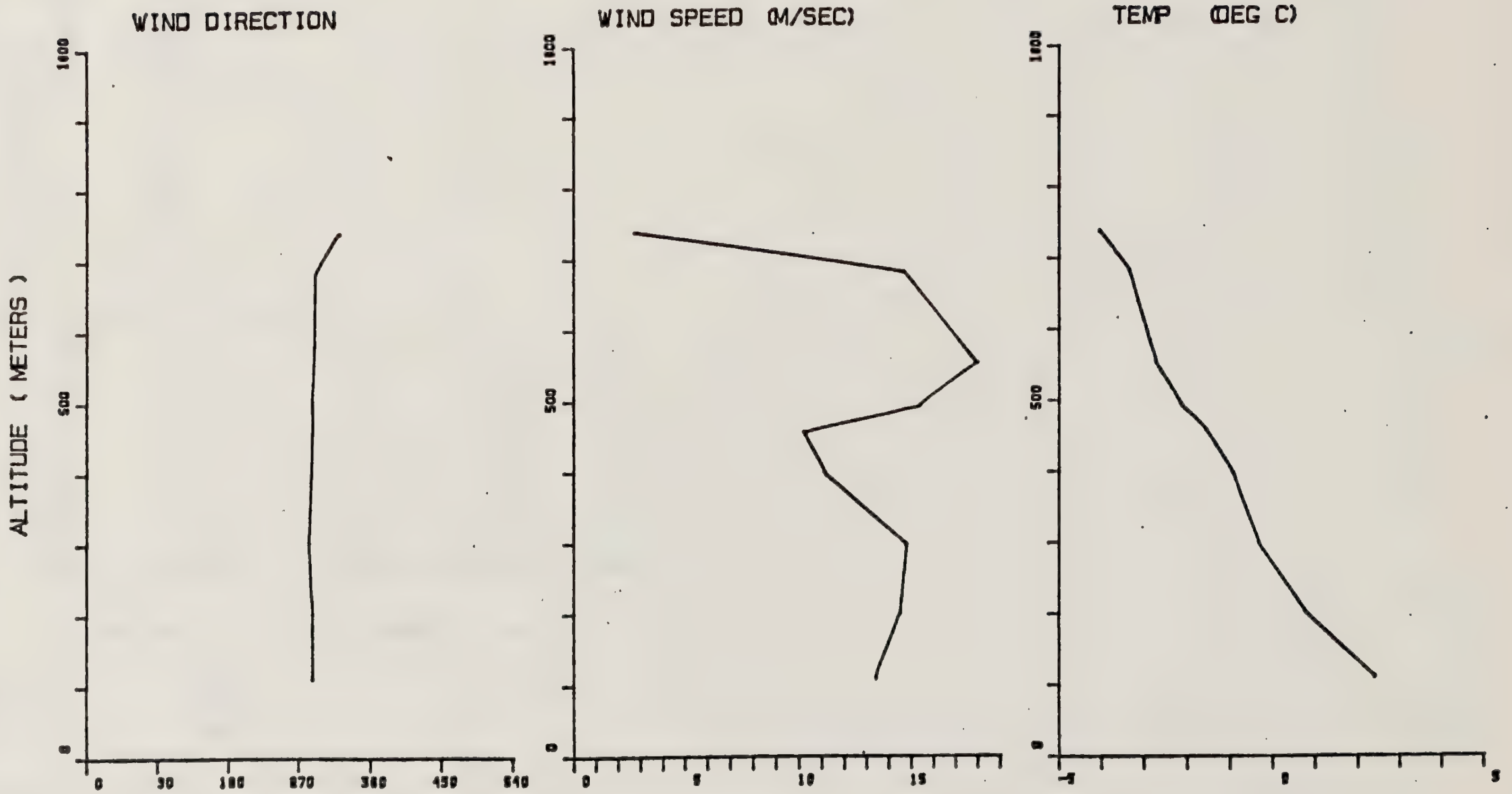
TIME 1330 DATE 4/17/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 07/JUL/78

TIME 1330 DATE 4/17/78



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C-B PINAL SOUNDING                         RUN ON 05/JUL/78

SOUNDING DATE  4-18-78

BALLOON RELEASED  700 CST


BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

                THEODOLITE #1            THEODOLITE #2


    TIME       AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0           .0         .0            78.0       -.0        .0
     .5        301.1       71.8            77.7       2.0       3.7
    1.0         21.1       74.5            77.9       5.7       4.1
    1.5         43.8       71.1            76.4       6.4       3.3
    2.0         54.6       66.5            76.1      10.7       2.5
    2.5         65.1       61.3            76.2      12.7       1.6
    3.0         75.7       56.0            77.3      14.2        .8
    3.5         81.2       51.7            78.4      15.6        .0
    4.0         85.5       48.4            79.7      16.8       -.8
    4.5         89.0       45.6            80.9      18.7      -1.6
    5.0         93.7       43.3            82.9      19.4      -2.4
    5.5         97.6       41.7            84.8      19.1      -3.1
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO        ERROR

     1        35.7        5.0
     2       138.9        5.4
     3        21.7        5.9
     4        13.9        6.5
     5        12.0        7.1
     6        33.1        7.9
     7        42.3        8.8
     8        51.5        9.7
     9       120.8       11.1
    10       158.7       12.0
    11       134.0       12.2


          HEIGHT  DIRECTION  SPEED  TEMP
           FEET    DEGREES   FT/SEC

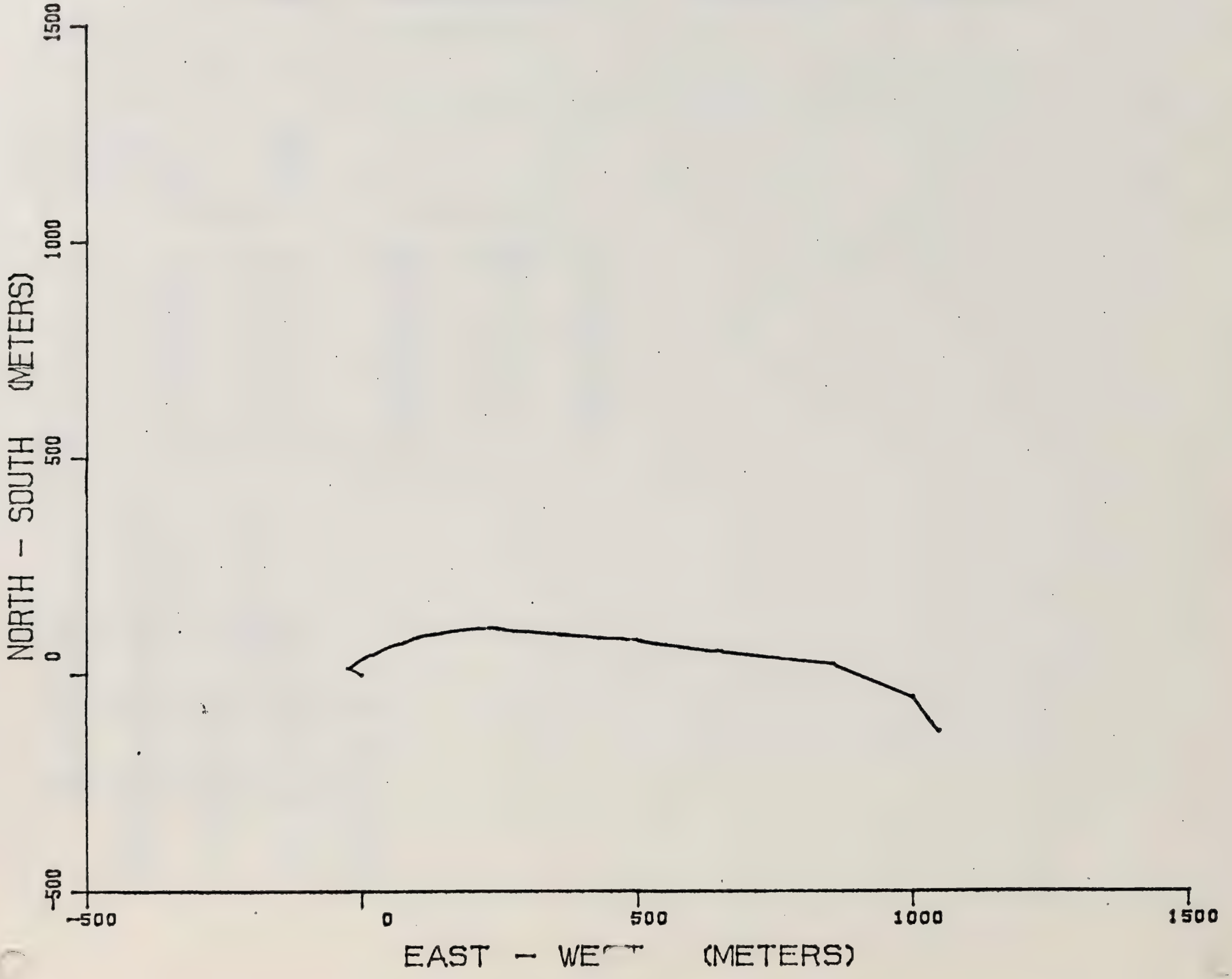
           281.      203       2.7   3.7
           627.      236       5.9   4.1
           945.      246       6.7   3.3
          1225.      256       9.0   2.5
          1518.      269      12.2   1.6
          1791.      276      14.6    .8
          2086.      278      15.7    .0
          2381.      279      19.7   -.8
          2870.      287      20.4  -1.6
          3124.      308      13.7  -2.4
```

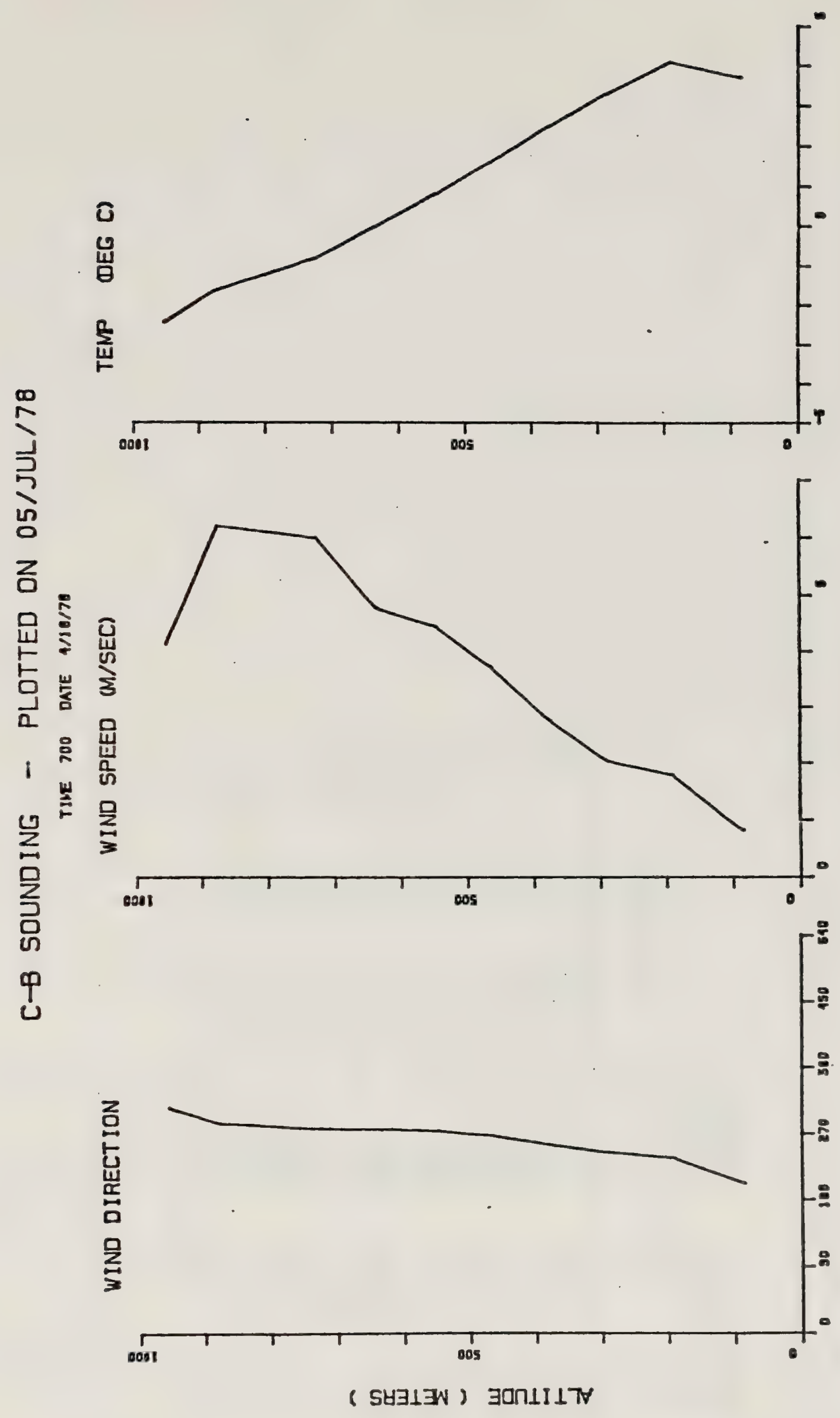
HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
86.	203	.8	3.7
191.	238	1.8	4.1
288.	246	2.0	3.3
373.	256	2.7	2.5
463.	269	3.7	1.6
546.	276	4.5	.6
636.	278	4.8	.0
726.	279	6.0	-.8
875.	287	6.2	-1.6
952.	308	4.2	-2.4

C-B SOUNDING - PLOTTED ON 05/JUL/78

TIME 700 DATE 4/18/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN




C–B SOUNDING — PLOTTED ON 05/JUL/78
TIME 700 DATE 4/18/78
WIND DIRECTION
WIND SPEED (M/SEC)
TEMP (DEG C)
ALTITUDE (METERS)
0
500
1000
0
90
180
270
360
450
540
0
5
-5
0
5

```
C-B PIBAL SOUNDING                    RUN ON 07/JUL/78

SOUNDING DATE  4-18-78

BALLOON RELEASED 1330 CST

BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

            THEODOLITE #1             THEODOLITE #2

   TIME      AZIMUTH  ELEVATION      AZIMUTH  ELEVATION    TEMP
    .0           .0         .0         78.0        -.0      .0
    .5        142.2       21.3         86.6        4.8     7.6
   1.0        145.7       20.1         93.6        6.2     6.2
   1.5        143.9       20.8         99.7        8.9     4.7
   2.0        141.3       21.7        101.9       10.6     3.3
   2.5        139.0       23.3        104.0       12.5     1.9
   3.0        138.3       25.1        106.1       14.5      .4
   3.5        136.8       27.5        106.3       17.1    -1.0
   4.0        138.1       29.5        109.0       19.0    -2.6
   4.5        137.5       31.5        109.7       20.6    -4.1
   5.0        134.1       33.7        108.8       22.4    -5.7
   5.5        129.4       34.1        107.2       23.2    -7.3
   6.0        126.0       33.4        106.6       23.4    -8.8
   6.5        125.9       32.7        107.9       23.5    -10.
   7.0        126.2       31.5        109.2       23.6    -12.
   7.5        127.2       31.1        110.8       24.1    -13.
   8.0        129.0       30.2        112.9       24.0    -15.
   8.5        130.5       29.1        114.9       23.5    -15.
   9.0        131.7       27.7        116.8       23.0    -16.
   9.5        132.5       25.8        118.8       22.8    -16.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME       RHO       ERROR

     1       197.8        6.3
     2       106.6        7.4
     3       110.5        9.1
     4       138.6       10.2
     5       133.7       11.6
     6       124.4       12.8
     7       141.0       14.1
     8       151.2       15.0
     9        99.3       15.9
    10        84.1       17.1
    11       127.2       18.5
    12       149.3       20.3
    13       110.8       22.0
    14       198.8       23.8
    15       262.1       25.5
    16       290.6       26.9
    17       264.9       28.3
    18       322.9       30.2
    19       627.3       33.6
```

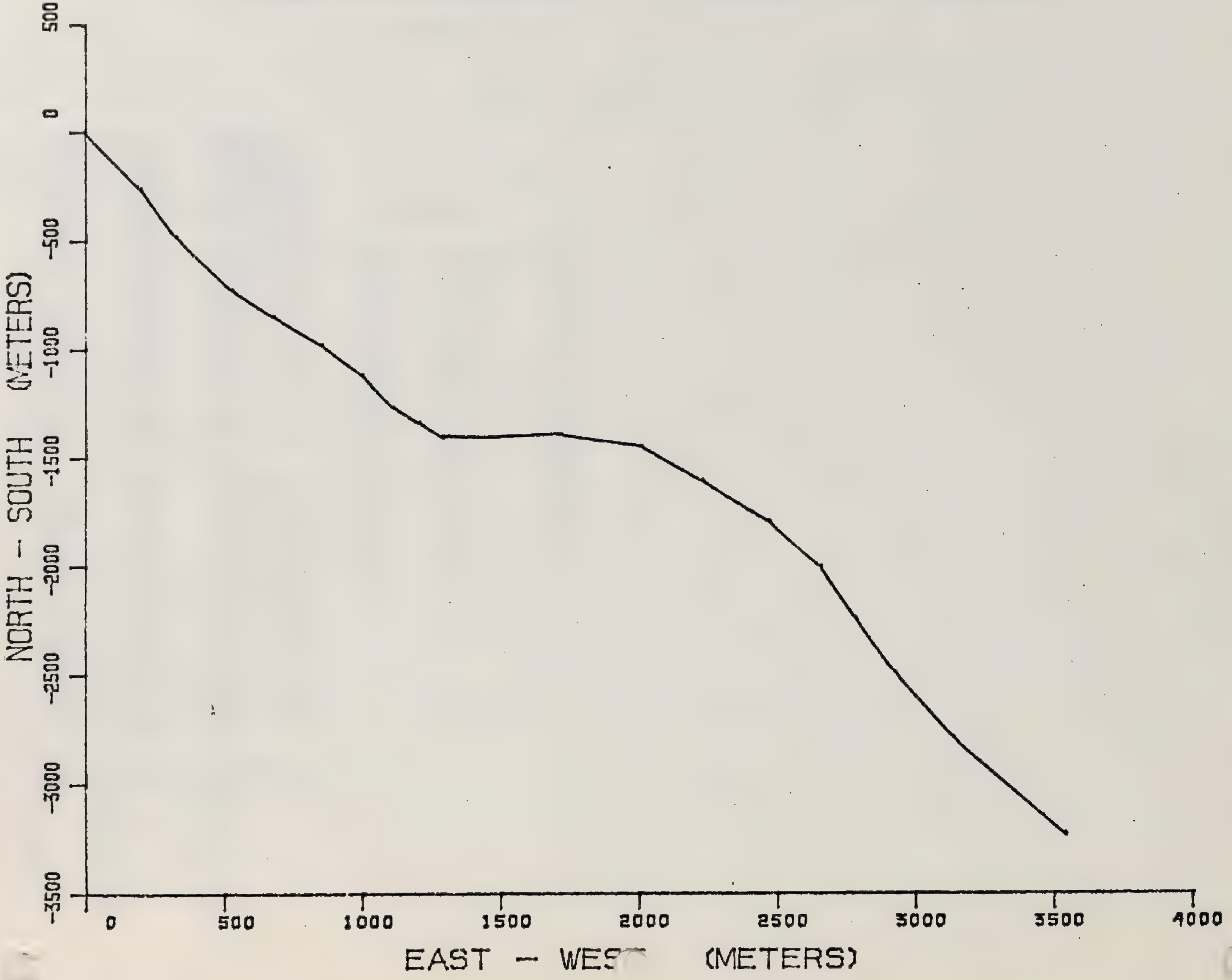
HEIGHT FEET	DIRECTION DEGREES	SPEED FT/SEC	TEMP
452.	326	31.7	7.6
724.	325	31.3	6.2
1155.	317	27.7	4.7
1464.	309	22.4	3.3
1883.	311	22.9	1.9
2352.	318	21.4	.4
2942.	317	16.6	-1.0
3410.	308	12.1	-2.6
3876.	266	14.2	-4.1
4471.	268	22.8	-5.7
4953.	275	30.1	-7.3
5417.	293	30.7	-8.8
5833.	307	31.6	-10.4
6227.	313	31.8	-12.0
6701.	325	29.6	-13.5
6953.	331	30.3	-15.1
7133.	327	35.5	-15.5
7377.	321	52.9	-16.0

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
138.	326	9.7	7.6
221.	325	9.5	6.2
352.	317	8.4	4.7
446.	309	6.8	3.3
574.	311	7.0	1.9
717.	318	6.5	.4
897.	317	5.1	-1.0
1040.	308	3.7	-2.6
1181.	286	4.3	-4.1
1363.	268	6.9	-5.7
1510.	275	9.2	-7.3
1651.	293	9.4	-8.8
1778.	307	9.6	-10.4
1898.	313	9.7	-12.0
2042.	325	9.0	-13.5
2119.	331	9.2	-15.1
2174.	327	10.8	-15.5
2249.	321	16.1	-16.0

C–B SOUNDING – PLOTTED ON 07/JUL/78

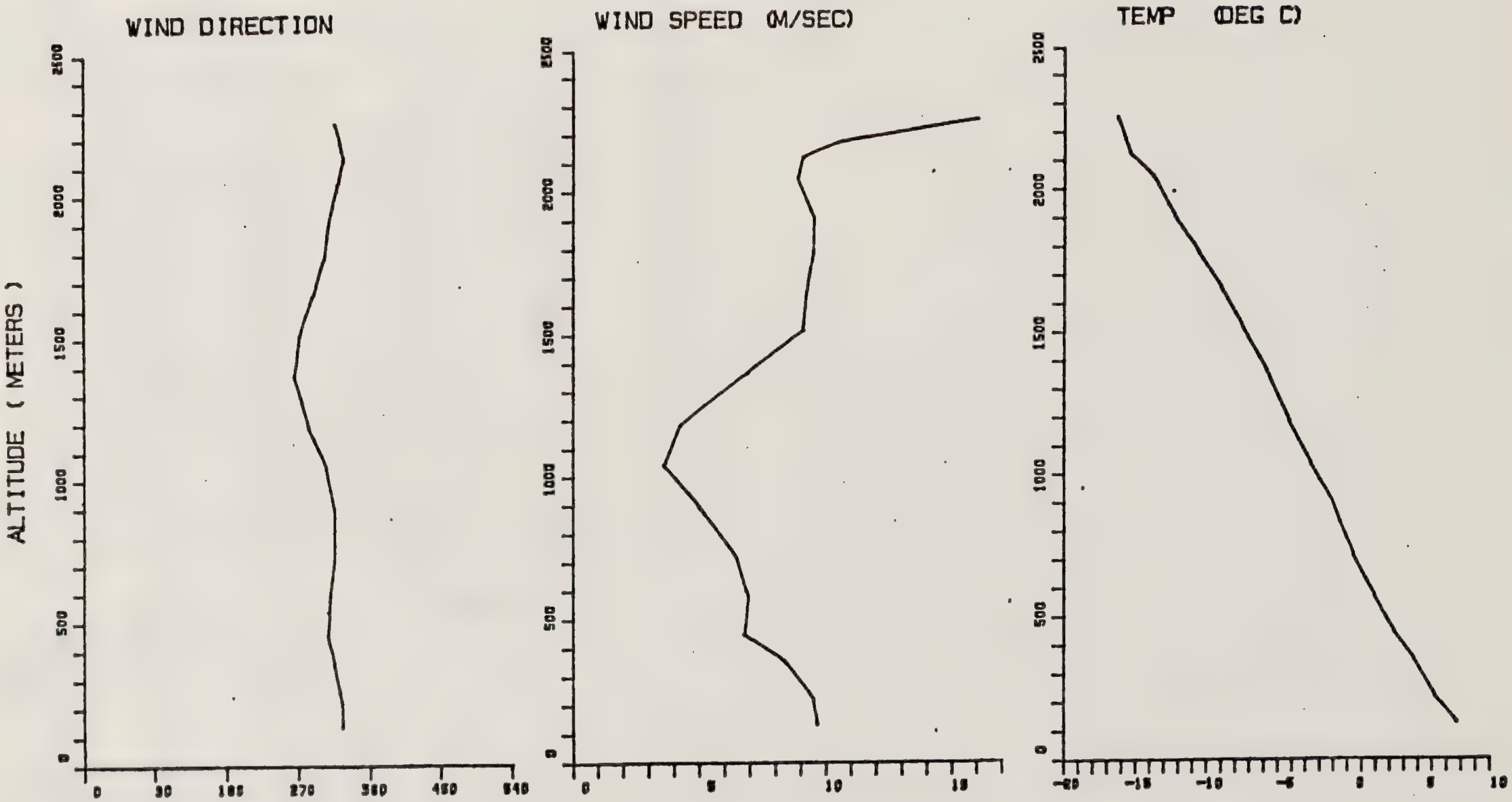
TIME 1330 DATE 4/18/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 07/JUL/78

TIME 1330 DATE 4/18/78



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C-H PIBAL SOUNDING                      RUN ON 06/JUL/78

SOUNDING DATE  4-20-78

BALLOON RELEASED  645 CST


BASE LINE ANGLE             258.0
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0

                THEODOLITE #1             THEODOLITE #2


   TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION   TEMP
    .0           .0         .0           78.0        -.0      .0
    .5        295.4       32.6           76.9        2.4     8.6
   1.0        297.7       35.3           73.1        5.8     9.3
   1.5        304.6       42.6           71.0        9.2     9.5
   2.0        313.0       47.6           68.4       13.4     8.5
   2.5        336.0       53.8           65.4       16.5     7.8
   3.0        355.6       50.2           63.1       17.7     7.4
   3.5         15.2       46.6           63.0       17.7     7.0
   4.0         35.0       43.0           63.4       17.9     6.5
   4.5         44.6       40.0           64.3       18.2     6.1
   5.0         49.9       37.8           65.3       18.5     5.7
   5.5         54.1       36.4           66.2       18.8     5.3
   6.0         57.5       35.0           66.9       19.0     4.6
   6.5         60.2       33.8           67.6       19.3     3.6
   7.0         61.9       32.8           68.2       19.4     2.5
   7.5         62.9       32.3           68.6       19.5     1.5
   8.0         64.1       31.5           69.0       19.6      .5
   8.5         65.7       30.5           69.5       19.6     -.5
   9.0         66.4       29.8           69.8       19.6    -1.4
   9.5         66.9       29.4           70.0       19.5    -2.3
  10.0         67.9       28.7           70.3       19.6    -3.2
  10.5         68.9       28.4           70.9       19.6    -4.1
  11.0         70.3       27.9           71.7       19.7    -5.0
  11.5         71.7       27.6           72.6       19.7    -6.0
  12.0         72.9       27.5           73.3       19.8    -6.9
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1     146.6        4.9
     2      89.7        5.1
     3      85.4        5.4
     4     104.8        5.8
     5      31.7        6.7
     6      92.8        7.6
     7     113.1        8.6
     8      40.7       10.5
     9      99.5       12.1
    10      83.0       13.4
    11     107.0       14.7
    12     153.8       16.0
    13     179.0       17.6
    14     173.4       18.8
    15     166.2       19.5
```

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16      175.3       20.8
17      224.2       22.4
18      217.8       23.6
19      232.9       24.2
20      282.2       26.1
21      286.8       26.8
22      305.4       28.5
23      318.0       24.2
24      358.4       29.8

     HEIGHT  DIRECTION   SPEED  TEMP
      FEET    DEGREES   FT/SEC

      226.      118       12.6   8.6
      548.      130        9.5   9.3
      849.      162        6.8   9.5
     1222.      202       10.9   8.5
     1671.      219       18.1   7.8
     1935.      231       22.0   7.4
     2163.      246       31.6   7.0
     2634.      251       34.9   6.5
     3003.      254       28.2   6.1
     3294.      257       24.4   5.7
     3589.      256       24.7   5.3
     3900.      257       26.9   4.6
     4254.      256       24.9   3.6
     4501.      259       17.9   2.5
     4666.      258       18.4   1.5
     4934.      257       26.7    .5
     5256.      257       26.5   -.5
     5495.      257       16.4  -1.4
     5573.      257       22.3  -2.3
     5969.      261       24.0  -3.2
     6103.      269       22.6  -4.1
     6453.      274       24.0  -5.0
     6603.      288       15.4  -6.0

     HEIGHT  DIRECTION   SPEED  TEMP
     METERS   DEGREES    M/SEC

       69.      118        3.8   8.6
      167.      130        2.9   9.3
      259.      162        2.1   9.5
      373.      202        3.3   8.5
      509.      219        5.5   7.8
      590.      231        6.7   7.4
      659.      246        9.6   7.0
      803.      251       10.6   6.5
      915.      254        8.6   6.1
     1004.      257        7.4   5.7
     1094.      258        7.5   5.3
     1189.      257        8.2   4.6
     1297.      258        7.6   3.6
     1372.      259        5.5   2.5
     1422.      258        5.6   1.5
     1504.      257        8.1    .5
     1603.      257        8.1   -.5
     1675.      257        5.0  -1.4
```

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1699.     257       6.8  -2.3
1819.     261       7.3  -3.2
1860.     269       6.9  -4.1
1967.     274       7.3  -5.0
2012.     288       4.7  -6.0
```
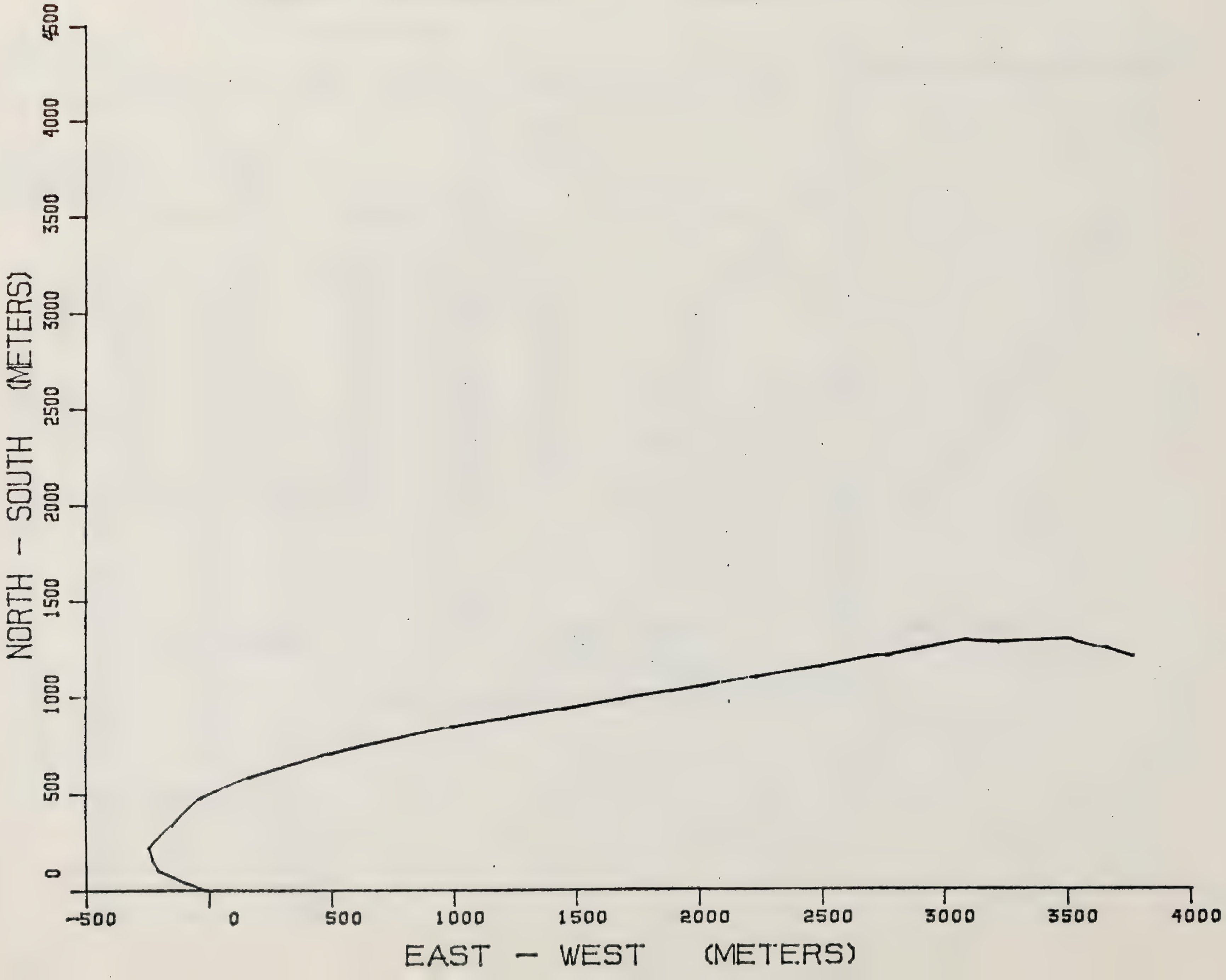

C-B SOUNDING — PLOTTED ON 06/JUL/78

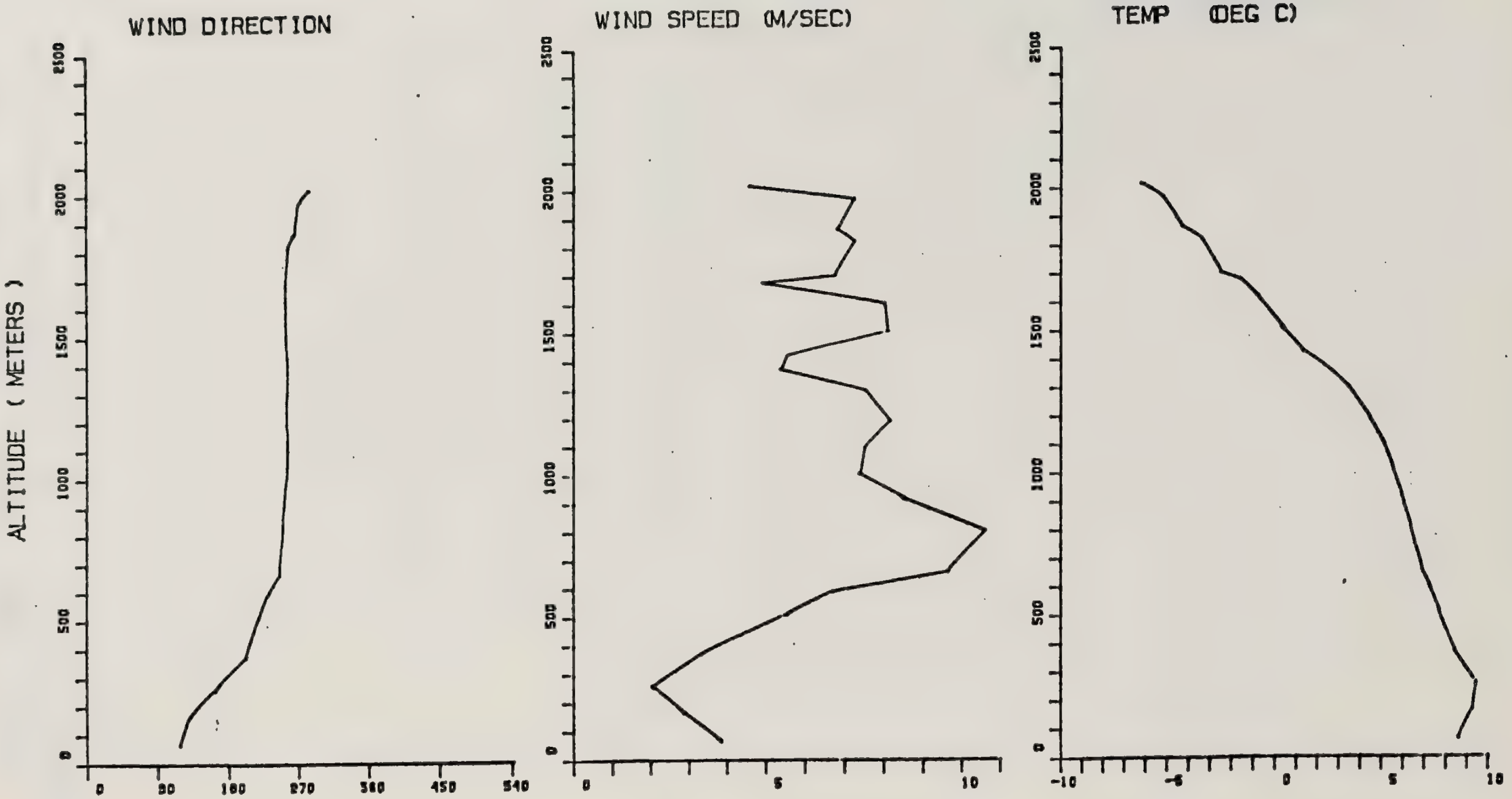
TIME 645 DATE 4/20/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C–B SOUNDING – PLOTTED ON 06/JUL/78

TIME 645 DATE 4/20/78



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C-8 PIBAL SOUNDING                    RUN ON 06/JUL/76

SOUNDING DATE  4-20-78

BALLOON RELEASED 1330 CST


BASE LINE ANGLE            258.0
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

                THEODOLITE #1           THEODOLITE #2


    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION   TEMP
     .0            .0         .0           78.0        -.0      .0
     .5            .1       40.5           70.4        6.5    14.1
    1.0         356.5       38.7           62.4       11.8    12.2
    1.5         354.2       38.2           55.2       11.3    10.3
    2.0         354.1       37.8           48.8       19.5     8.4
    2.5         355.1       36.8           43.0       22.4     6.6
    3.0         357.8       36.0           39.3       23.7     4.7
    3.5            .2       35.7           37.7       24.3     2.8
    4.0           4.7       36.6           37.5       25.5      .9
    4.5           7.9       38.1           37.4       27.3     -.8
    5.0          10.7       38.3           37.9       27.5    -2.3
    5.5          14.1       39.1           38.9       28.1    -3.8
    6.0          17.1       38.8           39.8       28.2    -5.4
    6.5          18.0       38.8           39.3       28.6    -6.9
    7.0          20.2       38.6           39.3       28.9    -8.5
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO        ERROR

     1       68.5        5.9
     2       36.5        7.1
     3      438.4        7.8
     4       60.2        9.7
     5       38.4       11.5
     6       63.6       13.3
     7       86.9       14.6
     8      123.4       16.3
     9      134.9       18.1
    10      180.3       19.1
    11      240.4       20.3
    12      221.0       21.5
    13      257.1       22.8
    14      306.3       24.8


         HEIGHT  DIRECTION  SPEED  TEMP
          FEET    DEGREES   FT/SEC

          705.      177      27.2  14.1
         1319.      170      23.3  12.2
         1565.      172      26.9  10.3
         2489.      177      33.6   8.4
         3134.      184      31.8   6.6
         3698.      193      26.9   4.7
  4099.       208        25.2   2.8
  4746.       216        26.8    .9
  5516.       221        21.5   -.8
  5866.       234        19.3  -2.3
  6347.       236        21.6  -3.8
  6717.       223        20.8  -5.4
  7162.       216        26.0  -6.9

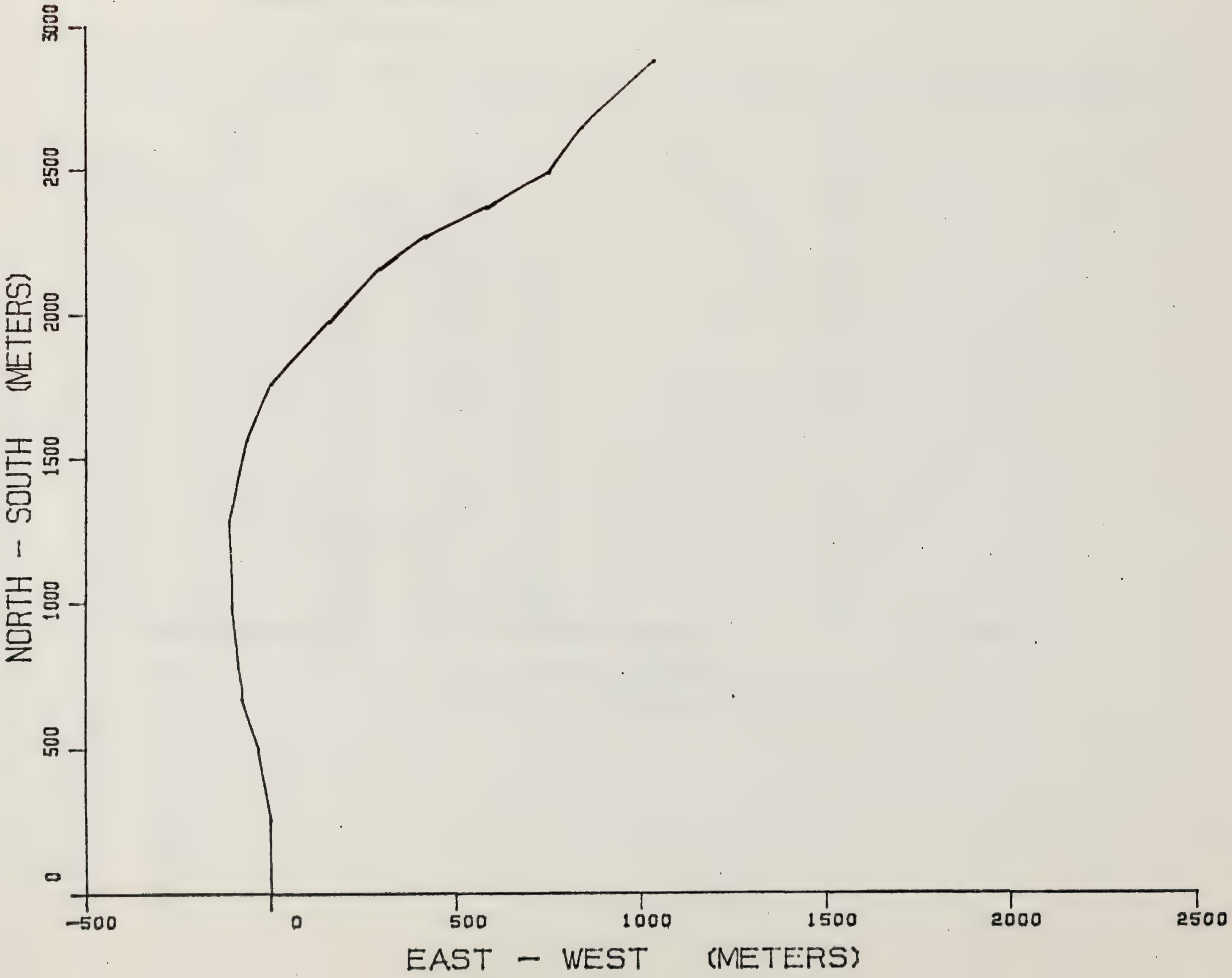
 HEIGHT   DIRECTION   SPEED   TEMP
 METERS    DEGREES    M/SEC

   215.       177         8.3  14.1
   402.       170         7.1  12.2
   477.       172         8.2  10.3
   759.       177        10.2   8.4
   955.       164         9.7   6.6
  1127.       193         8.2   4.7
  1249.       208         7.7   2.8
  1447.       216         8.2    .9
  1661.       221         6.6   -.8
  1788.       234         5.9  -2.3
  1935.       236         6.6  -3.8
  2047.       223         6.3  -5.4
  2163.       216         7.9  -6.9
```

C–B SOUNDING – PLOTTED ON 06/JUL/78

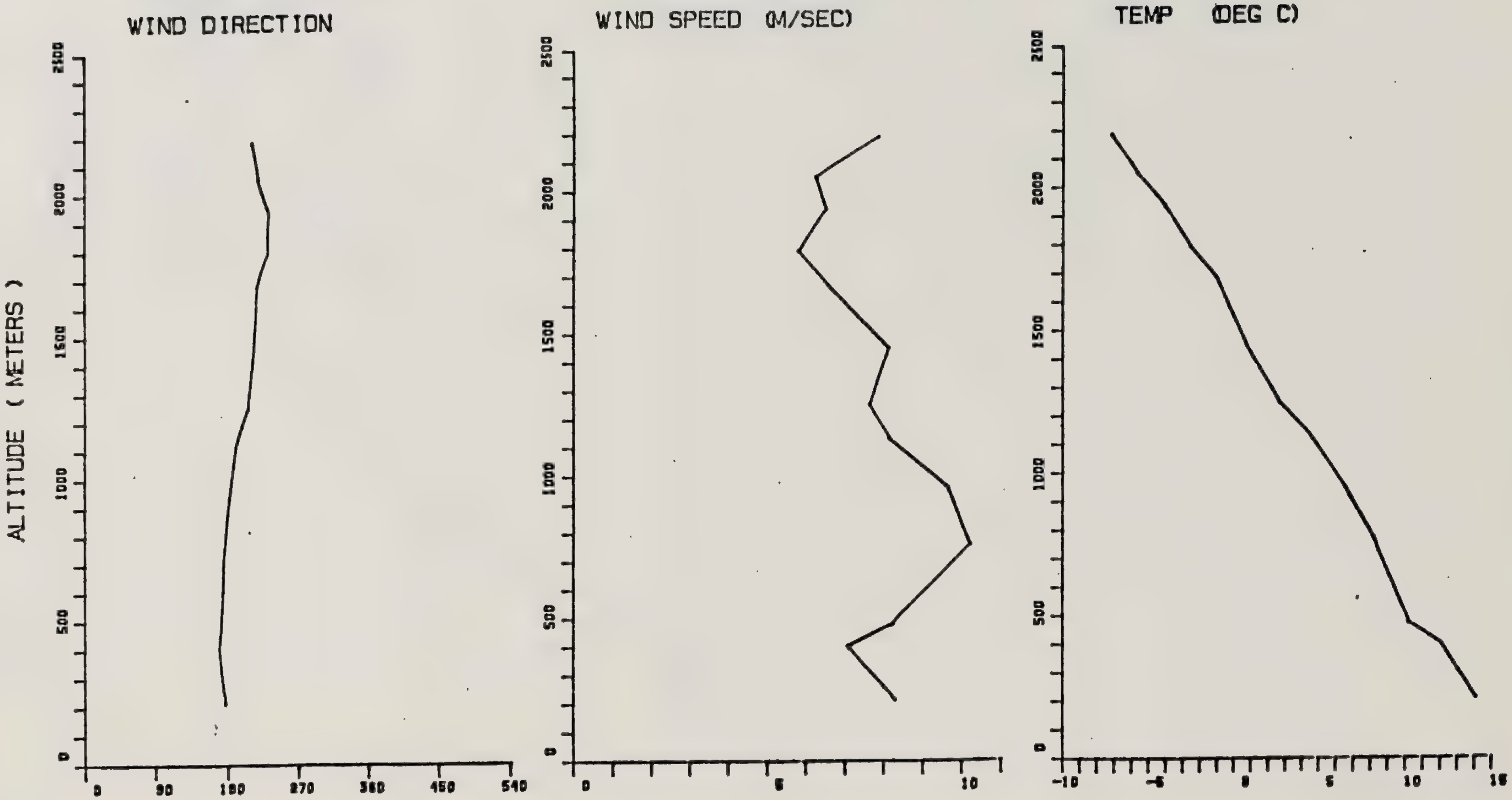
TIME 1330 DATE 4/20/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C–B SOUNDING – PLOTTED ON 06/JUL/78

TIME 1330 DATE 4/20/78



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C-B PIBAL SOUNDING                        RUN ON 06/JUL/78

SOUNDING DATE  4-21-78

BALLOON RELEASED  645 CST


BASE LINE ANGLE             258.0
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0

             THEODOLITE #1          THEODOLITE #2


  TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
   .0          .0        .0           78.0       -.0         .0
   .5       359.2      22.5           70.1       3.1        7.5
  1.0       353.6      19.7           55.5       7.9        6.6
  1.5       357.3      18.0           48.1       8.5        5.7
  2.0       359.3      17.0           41.2       9.6        4.8
  2.5         4.1      15.7           33.8      10.4        3.9
  3.0         6.4      15.2           31.5      10.4        3.0
  3.5         8.2      15.0           30.2      10.5        2.1
  4.0        10.0      14.7           29.0      10.5        1.3
  4.5        11.9      14.7           28.6      10.6         .4
  5.0        13.3      14.6           28.4      10.7        -.3
  5.5        14.9      14.5           28.6      10.8        -.9
  6.0        16.9      14.4           28.9      10.8       -1.5
  6.5        18.2      14.4           29.3      10.9       -2.1
  7.0        19.9      14.4           29.9      10.9       -2.7
  7.5        21.3      14.3           30.4      10.9       -3.7
  8.0        22.4      14.2           30.7      10.8       -4.4
  8.5        23.5      14.1           31.1      10.7       -5.4
  9.0        24.3      13.8           31.4      10.5       -6.3
  9.5        25.1      13.7           31.7      10.4       -7.3
 10.0        25.9      13.4           32.0      10.2       -8.2
 10.5        26.2      13.3           32.2      10.2       -9.1
 11.0        26.8      13.1           32.4      10.1       -9.8
 11.5        27.3      13.0           32.5      10.0       -10.
 12.0        27.7      12.9           32.7      10.0       -11.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

 TIME      RHO       ERROR


    1       71.8       5.8
    2      100.4       7.7
    3        2.2       9.4
    4       39.7      11.6
    5      111.7      16.3
    6      187.1      19.2
    7      246.8      21.7
    8      323.0      24.9
    9      411.4      27.9
   10      451.1      30.5
   11      476.0      33.2
   12      571.1      37.0
   13      605.3      39.4
   14      707.5      42.5
   15      769.0      45.6
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16      884.7       48.6
17      997.7       51.5
18     1048.9       54.1
19     1150.7       56.5
20     1219.6       59.6
21     1186.0       60.7
22     1236.7       63.8
23     1354.3       66.5
24     1352.4       68.7

       HEIGHT   DIRECTION   SPEED   TEMP
        FEET     DEGREES    FT/SEC

         351.       174      40.0    7.5
         890.       177      45.0    6.6
        1143.       184      42.0    5.7
        1402.       189      69.8    4.8
        2105.       194      74.2    3.9
        2436.       198      51.6    3.0
        2753.       200      54.4    2.1
        3124.       202      58.6    1.3
        3514.       205      53.2     .4
        3846.       208      50.2    -.3
        4181.       211      61.6    -.9
        4640.       213      59.1   -1.5
        4959.       217      52.9   -2.1
        5349.       218      60.3   -2.7
        5724.       217      59.3   -3.7
        6055.       217      56.5   -4.4
        6360.       218      52.7   -5.4
        6547.       219      48.3   -6.3
        6783.       219      53.4   -7.3
        7011.       219      40.8   -8.2
        7111.       218      40.4   -9.1
        7381.       216      55.1   -9.8
        7624.       217      46.6  -10.5

       HEIGHT   DIRECTION   SPEED   TEMP
       METERS    DEGREES    M/SEC

         107.       174      12.2    7.5
         271.       177      13.7    6.6
         348.       184      12.8    5.7
         452.       189      21.3    4.8
         641.       194      22.6    3.9
         743.       198      15.7    3.0
         839.       200      16.6    2.1
         952.       202      17.9    1.3
        1071.       205      16.2     .4
        1172.       208      15.3    -.3
        1274.       211      18.8    -.9
        1414.       213      18.0   -1.5
        1511.       217      16.1   -2.1
        1630.       218      18.4   -2.7
        1745.       217      18.1   -3.7
        1846.       217      17.2   -4.4
        1939.       218      16.1   -5.4
        1996.       219      14.7   -6.3
```
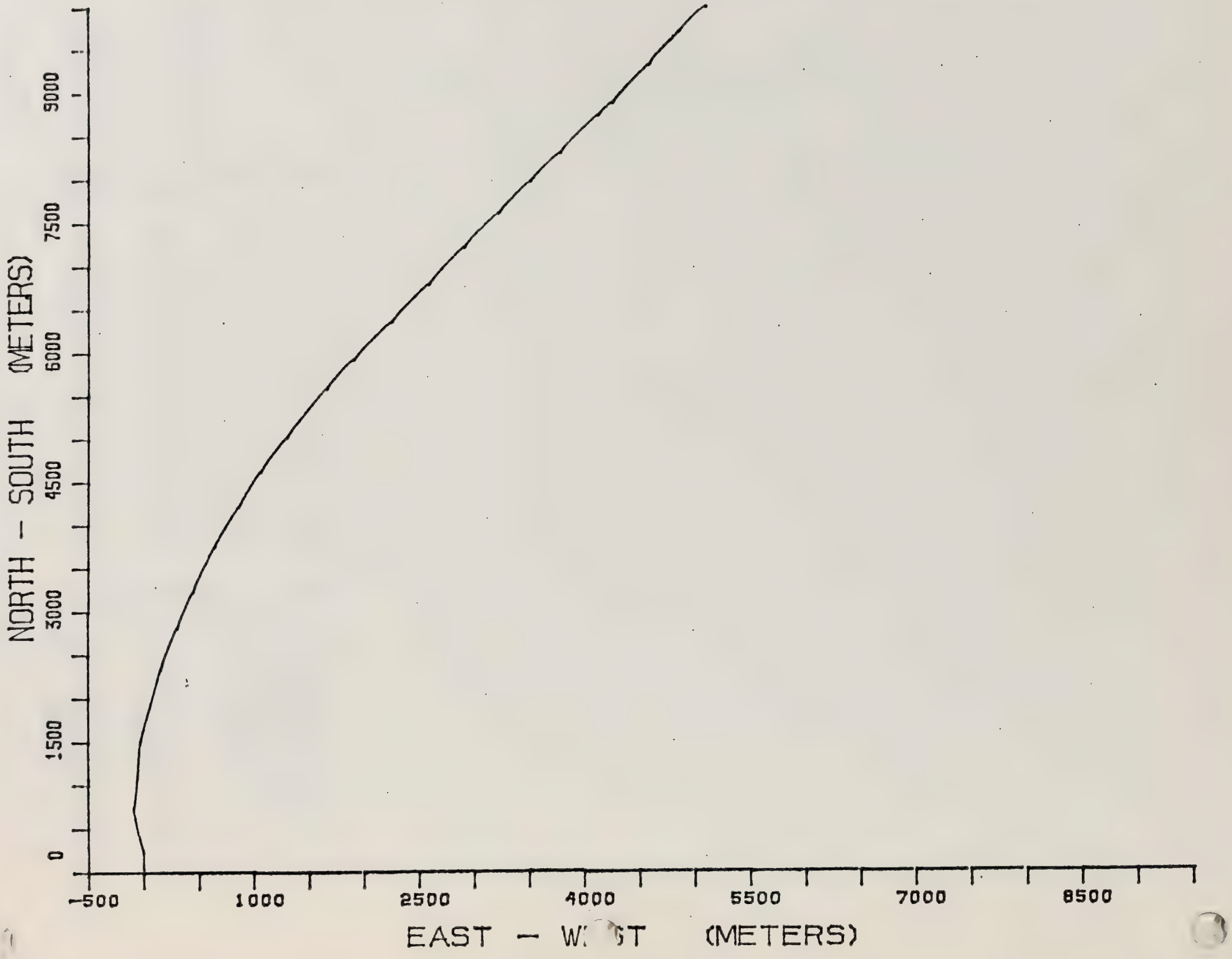

2067.	214	16.3	-7.3
2137.	219	12.4	-8.2
2167.	218	12.3	-9.1
2250.	216	16.8	-9.8
2324.	217	14.2	-10.5

C–B SOUNDING – PLOTTED ON 06/JUL/78

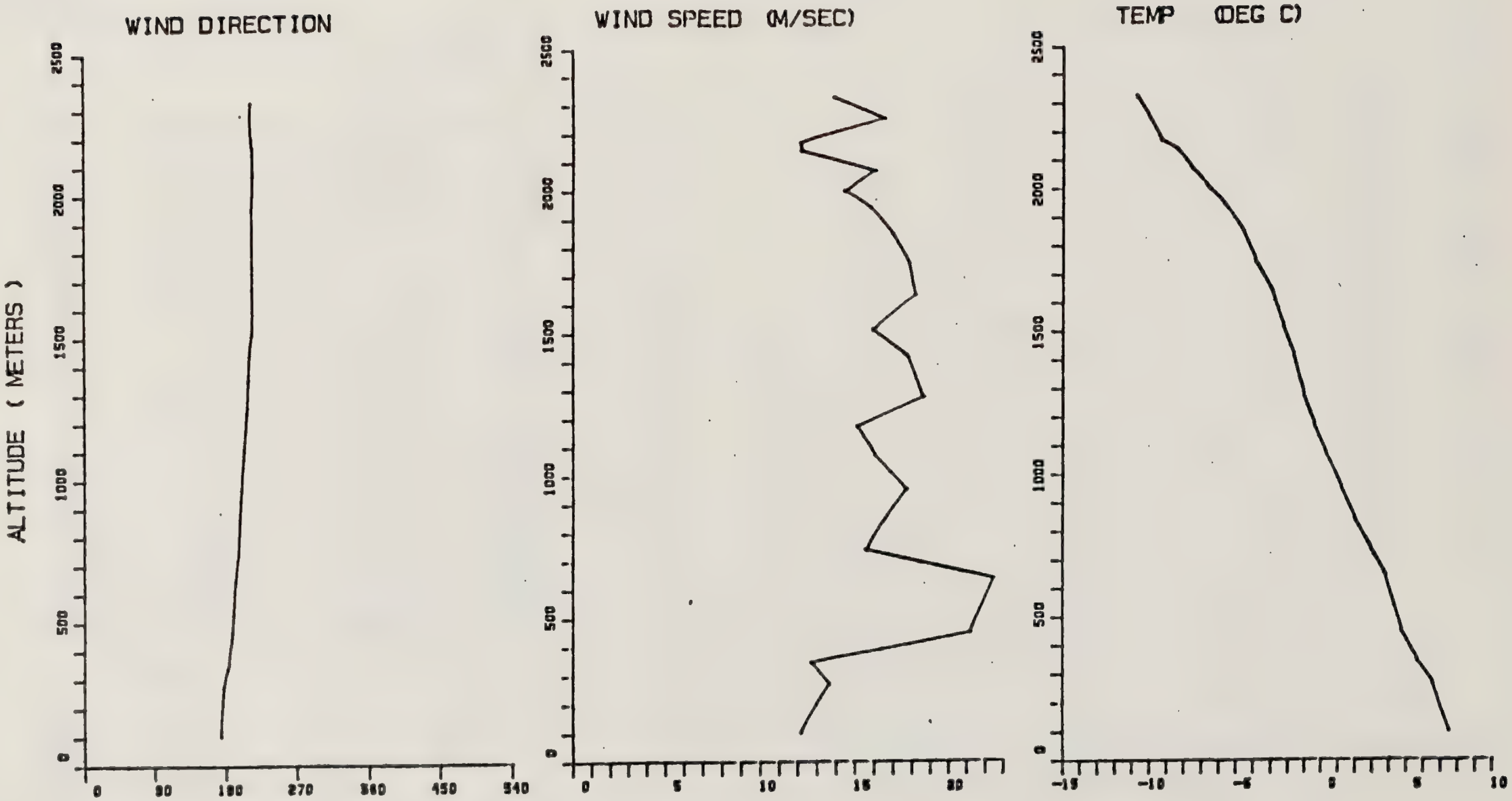
TIME 645 DATE 4/21/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 06/JUL/78

TIME 645 DATE 4/21/78



C-b Sounding

Time : Afternoon   Date: 4/21/78

No data taken due to snow.

```
C-8 PIBAL SOUNDING                        RUN ON 05/JUL/78

SOUNDING DATE  4-24-78

BALLOON RELEASED  650 CST

BASE LINE ANGLE              258.0
BASE LINE LENGTH (FT)       5473.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

                   THEODOLITE #1            THEODOLITE #2

    TIME       AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0            .0         .0           78.0        -.0       .0
     .5         294.1       47.7           76.7        2.6      5.5
    1.0         301.1       52.7           75.5        5.4      6.0
    1.5         300.3       61.2           75.1        8.1      6.5
    2.0         294.9       65.0           75.9       10.9      6.8
    2.5         289.6       68.0           75.1       14.1      6.7
    3.0         290.7       67.6           74.1       16.6      6.7
    3.5         295.7       66.7           72.6       19.1      6.6
    4.0         302.6       67.4           71.3       21.2      6.3
    4.5         309.7       67.6           69.5       23.5      5.7
    5.0         312.5       67.6           68.4       25.6      5.1
    5.5         316.4       70.1           68.2       27.5      4.5
    6.0         331.7       73.2           68.4       28.6      3.9
    6.5         348.8       76.1           69.5       29.4      3.3
    7.0          19.1       80.4           72.8       30.2      4.7
    7.5          50.3       82.0           75.1       31.3      4.7
    8.0          85.8       81.5           78.1       32.3      4.8
    8.5         109.7       77.0           81.7       32.9      4.2
    9.0         123.4       71.7           85.9       33.2      3.5
    9.5         130.0       66.7           89.9       33.7      2.9
   10.0         130.5       62.5           92.7       33.3      2.2
   10.5         130.2       58.3           95.4       33.0      1.6
   11.0         130.0       55.1           97.7       32.5      1.0
   11.5         130.3       51.4           99.9       32.0       .3
   12.0         130.6       48.4          102.1       31.3      -.3
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      54.9        5.0
     2      71.8        5.1
     3      44.7        5.4
     4     111.5        5.5
     5      33.4        5.8
     6      13.9        6.0
     7      11.7        6.2
     8      12.5        6.5
     9       3.0        6.8
    10       3.7        7.1
    11        .7        7.5
    12      16.8        8.0
    13      21.1        8.5
    14      22.1        8.9
    15      58.0        9.3
```

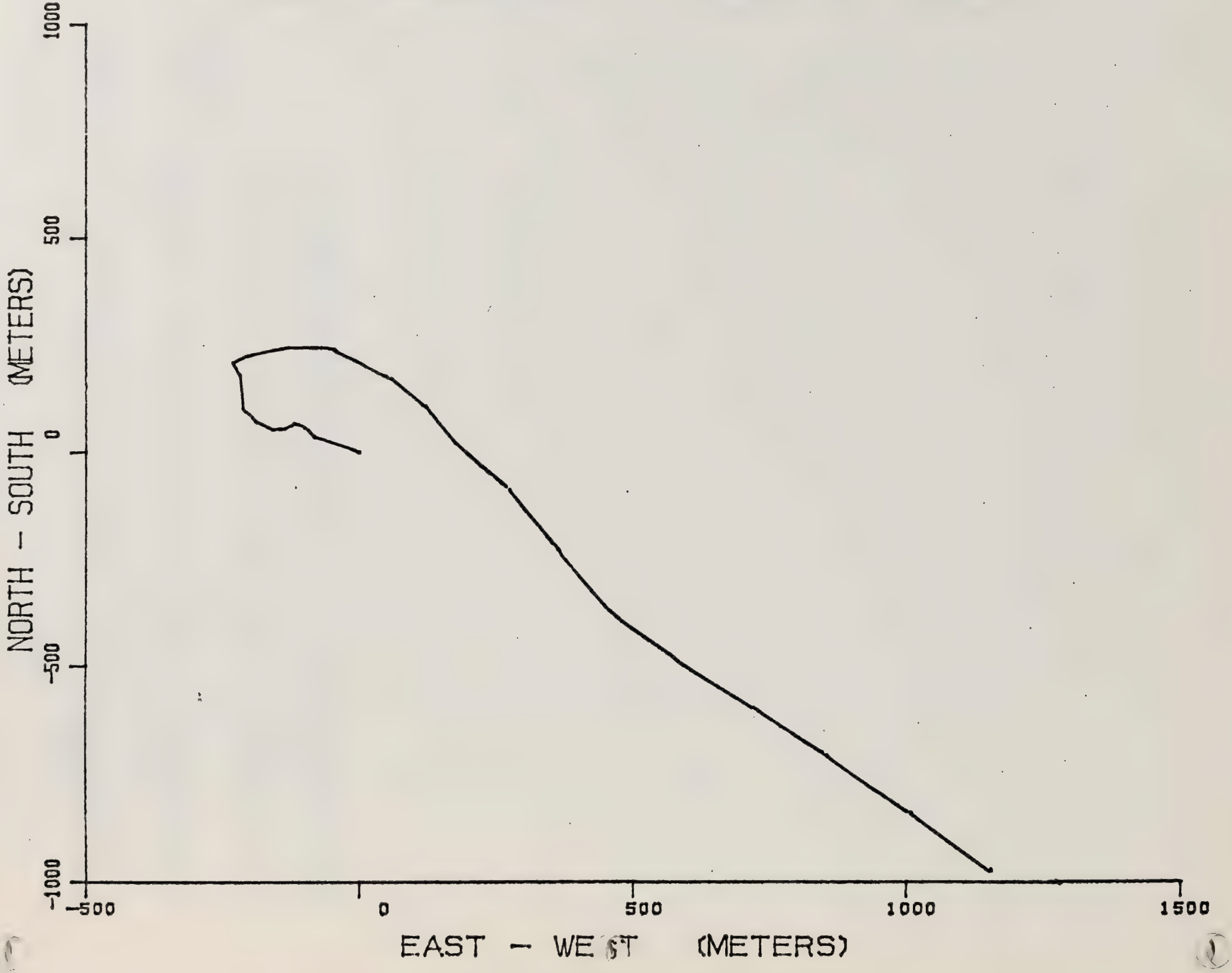
```
16      69.1       9.7
17      99.3      10.3
18     129.0      10.8
19     162.5      11.6
20     155.2      12.2
21     168.2      13.2
22     142.6      14.1
23     214.3      15.1
24     214.0      16.1

        HEIGHT  DIRECTION  SPEED   TEMP
         FEET    DEGREES   FT/SEC

          314.     121       7.0    5.5
          560.     131       2.8    6.0
          820.      72       1.4    6.5
         1055.      70       2.2    6.8
         1354.     104       2.8    6.7
         1571.     131       4.0    6.7
         1790.     157       4.0    6.6
         2003.     176       4.4    6.3
         2254.     169       4.1    5.7
         2472.     201       2.6    5.1
         2733.     250       5.7    4.5
         2989.     264       8.4    3.9
         3228.     291      11.1    3.3
         3476.     309      11.8    4.7
         3716.     322      10.5    4.7
         3926.     323      13.6    4.8
         4170.     324      17.0    4.2
         4363.     327      18.5    3.5
         4628.     320      17.8    2.9
         4807.     311      18.9    2.2
         5077.     310      19.7    1.6
         5289.     311      20.5    1.0
         5508.     312      22.0     .3

        HEIGHT  DIRECTION  SPEED   TEMP
        METERS   DEGREES   M/SEC

           96.     121       2.1    5.5
          171.     131        .9    6.0
          250.      72        .4    6.5
          322.      70        .7    6.8
          413.     104        .9    6.7
          479.     131       1.2    6.7
          545.     157       1.2    6.6
          611.     176       1.3    6.3
          687.     169       1.2    5.7
          753.     201        .8    5.1
          833.     250       1.7    4.5
          911.     264       2.6    3.9
          984.     291       3.4    3.3
         1060.     309       3.6    4.7
         1133.     322       3.2    4.7
         1197.     323       4.1    4.8
         1271.     324       5.2    4.2
         1330.     327       5.6    3.5
```

```
1410.    320      5.4   2.9
1465.    311      5.8   2.2
1548.    310      6.0   1.6
1612.    311      6.2   1.0
1679.    312      6.7    .3
```

C-B SOUNDING — PLOTTED ON 05/JUL/78

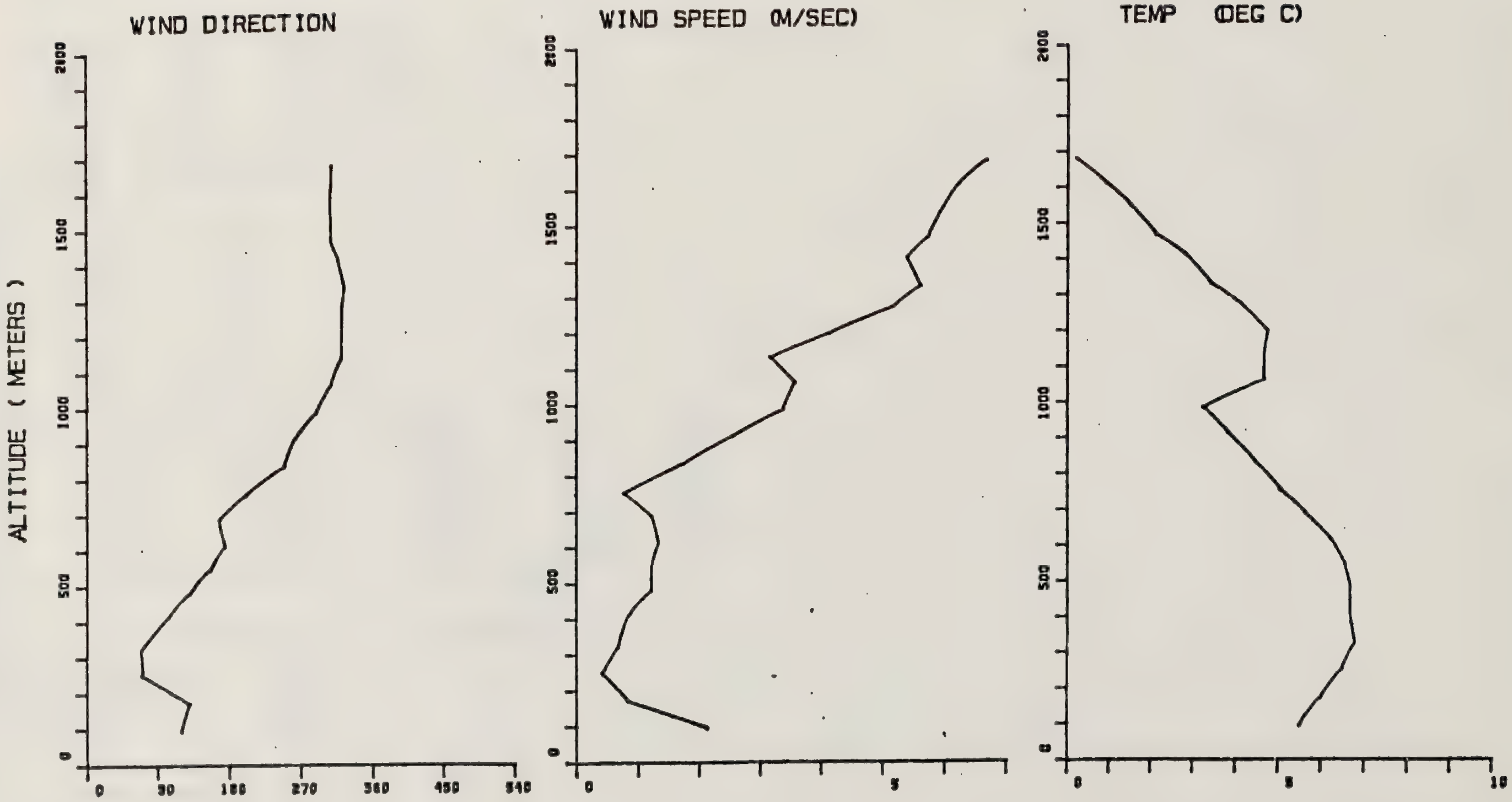
TIME 650 DATE 4/24/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 05/JUL/78

TIME 650 DATE 4/24/78



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C-8 PINAL SOUNDING                        RUN ON 06/JUL/78

SOUNDING DATE  4-24-78

BALLOON RELEASED 1330 CST


BASE LINE ANGLE             258.0
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0

             THEODOLITE #1              THEODOLITE #2


    TIME      AZIMUTH  ELEVATION      AZIMUTH  ELEVATION    TEMP
     .0            .0         .0         78.0        -.0       .0
     .5         244.1       57.4         79.9        5.6     18.5
    1.0         241.8       62.6         80.1       11.9     15.3
    1.5         235.9       60.2         82.1       17.0     14.1
    2.0         229.2       56.5         86.0       23.5     12.8
    2.5         224.8       55.8         91.0       26.9     11.4
    3.0         219.1       55.6         96.1       36.6      9.4
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME     RHO       ERROR

     1      75.9        5.1
     2      17.1        5.5
     3       4.6        5.8
     4      28.2        6.2
     5      42.0        6.8
     6      71.6        7.6


          HEIGHT  DIRECTION  SPEED  TEMP
           FEET    DEGREES   FT/SEC

           610.       61        9.8  18.5
          1138.       50        8.1  15.3
          1530.       40       12.5  14.1
          1991.       32       13.7  12.8
          2426.       23       13.7  11.4

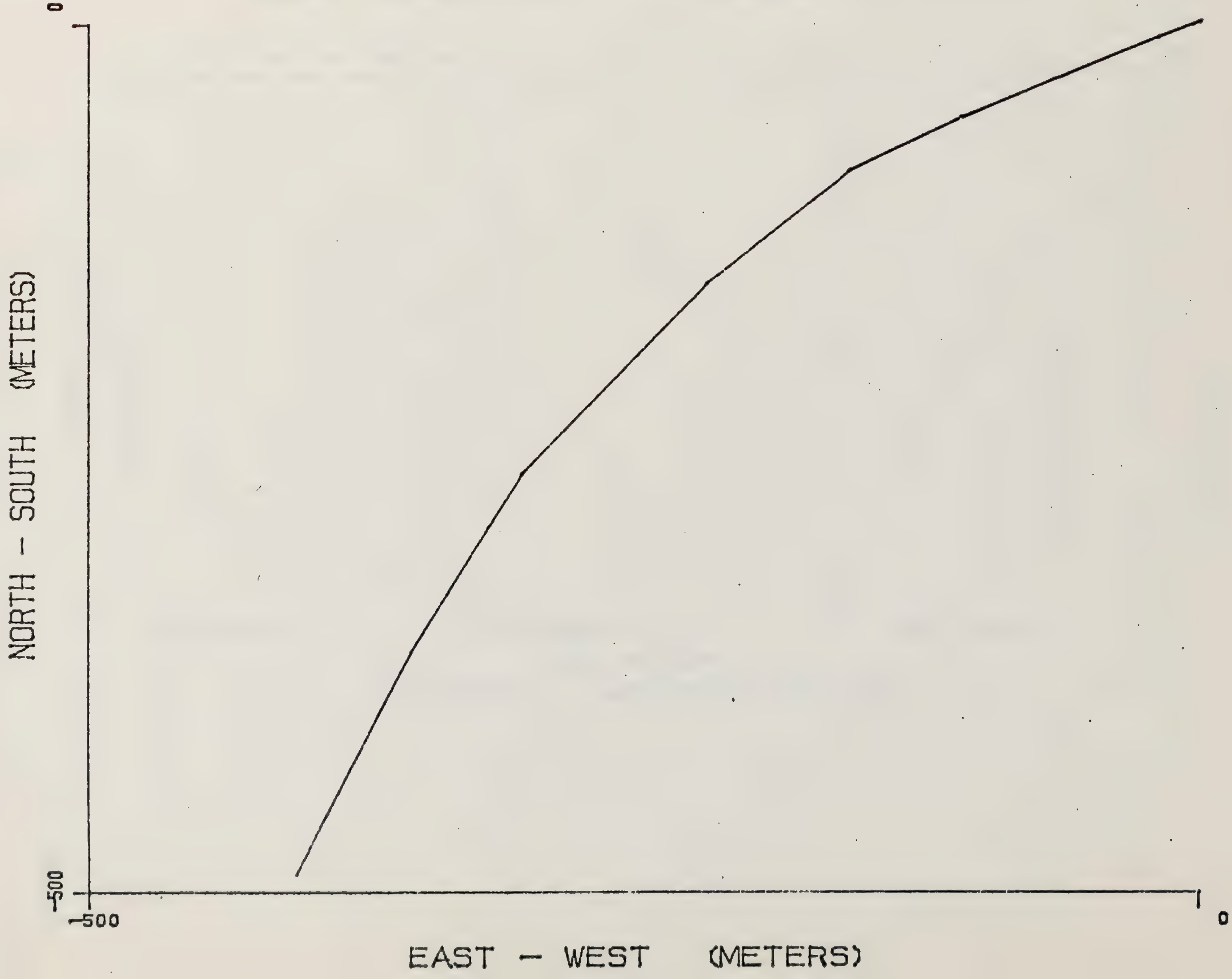

          HEIGHT  DIRECTION  SPEED   TEMP
          METERS   DEGREES   M/SEC

           186.       61        3.0  18.5
           347.       50        2.5  15.3
           466.       40        3.8  14.1
           607.       32        4.2  12.8
           740.       23        4.2  11.4
```

C–B SOUNDING – PLOTTED ON 06/JUL/78

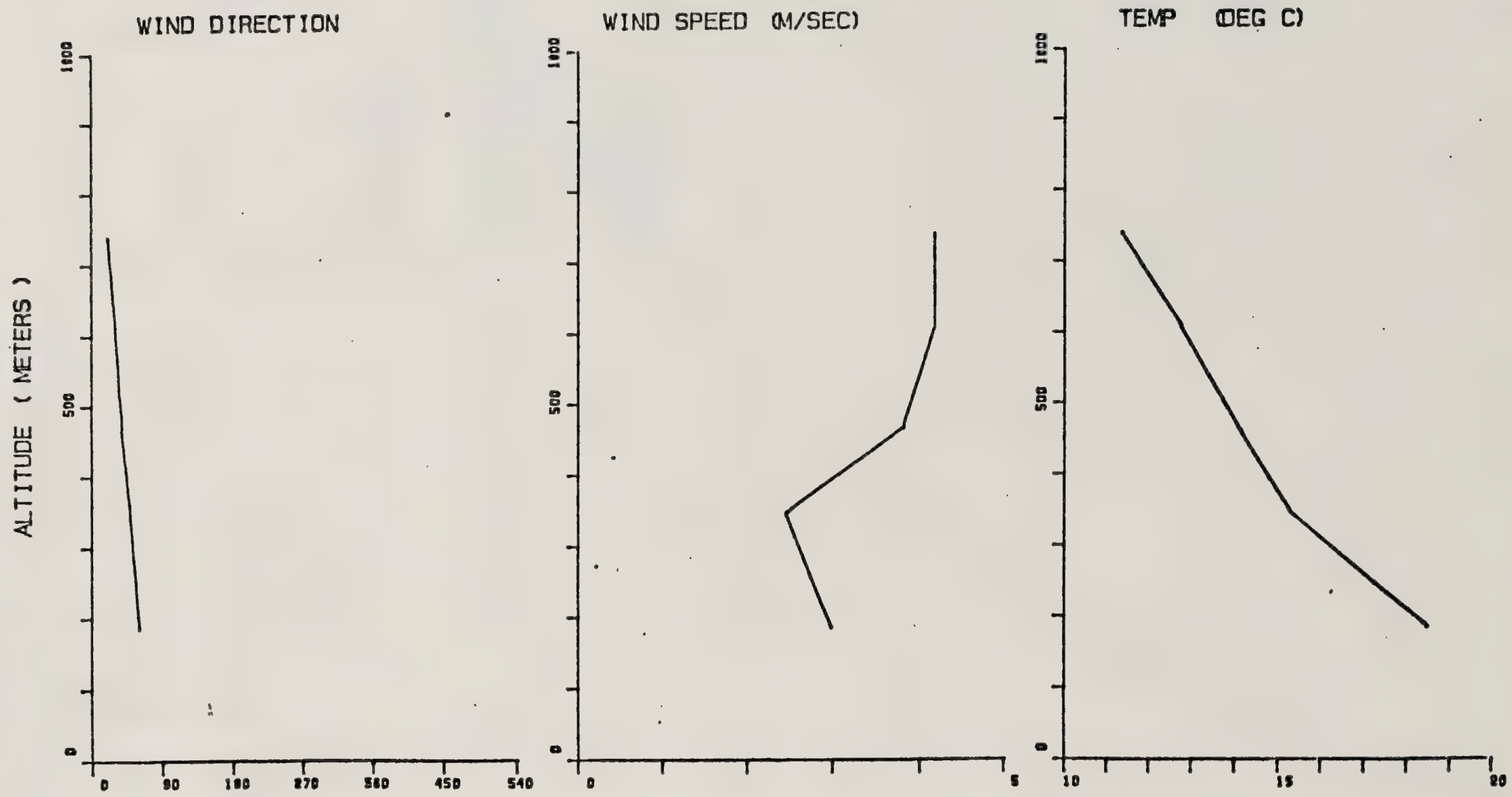
TIME 1330 DATE 4/24/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 06/JUL/78

TIME 1330 DATE 4/24/78



C-b Sounding

Time: 0650 Date: 4/26/78

Insufficient Data.

C-b Sounding

Time: Afternoon Date: 4/26/78

No data taken.

```
C-8 PIBAL SOUNDING                    RUN ON 06/JUL/78

SOUNDING DATE  4-28-78

BALLOON RELEASED  645 CST


BASE LINE ANGLE            258.5
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

                THEODOLITE #1          THEODOLITE #2


    TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
      .0           .0         .0          78.5        -.0      .0
      .5        304.1       85.1          78.9        2.6    -5.9
     1.0         72.1       61.2          77.7        5.6    -6.0
     1.5         78.1       43.2          77.8        7.7    -6.5
     2.0         81.3       38.4          78.4       10.0    -5.8
     2.5         83.2       35.5          79.5       11.3    -3.9
     3.0         85.4       32.6          80.1       12.5    -1.9
     3.5         87.3       31.8          81.2       13.3      .0
     4.0         89.1       29.8          82.5       13.7     -.9
     4.5         90.3       27.0          83.5       13.9    -1.7
     5.0         90.8       26.9          84.3       14.2    -2.6
     5.5         91.2       24.9          84.9       14.4    -3.5
     6.0         92.0       24.3          85.7       14.7    -4.3
     6.5         92.7       24.8          86.5       15.0    -5.2
     7.0         93.2       24.6          87.1       15.3    -6.1
     7.5         94.0       23.3          88.0       15.6    -7.0
     8.0         94.8       23.0          88.8       15.9    -7.8
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO       ERROR

      1      59.3        5.1
      2      40.3        5.8
      3      72.3        7.0
      4      96.6        8.3
      5      53.9        9.4
      6     133.4       10.8
      7     121.7       11.7
      8     109.0       12.9
      9     157.5       14.7
     10      91.5       15.4
     11     154.5       17.5
     12     164.2       18.9
     13      82.5       19.2
     14      73.5       20.3
     15     158.8       23.2
     16     183.2       24.8


          HEIGHT  DIRECTION  SPEED  TEMP
           FEET    DEGREES   FT/SEC

           344.      251        6.2  -5.9
           675.      258       17.7  -6.0
```

```
  981.       263       22.5  -6.5
 1361.       267       21.2  -5.8
 1649.       269       22.6  -3.9
 1966.       274       20.5  -1.9
 2198.       279       19.6    .0
 2426.       277       28.6   -.9
 2690.       277       23.6  -1.7
 2865.       275       26.1  -2.6
 3182.       275       31.9  -3.5
 3434.       285       15.8  -4.3
 3581.       287       13.2  -5.2
 3613.       276       36.1  -6.1
 4292.       260       40.9  -7.0

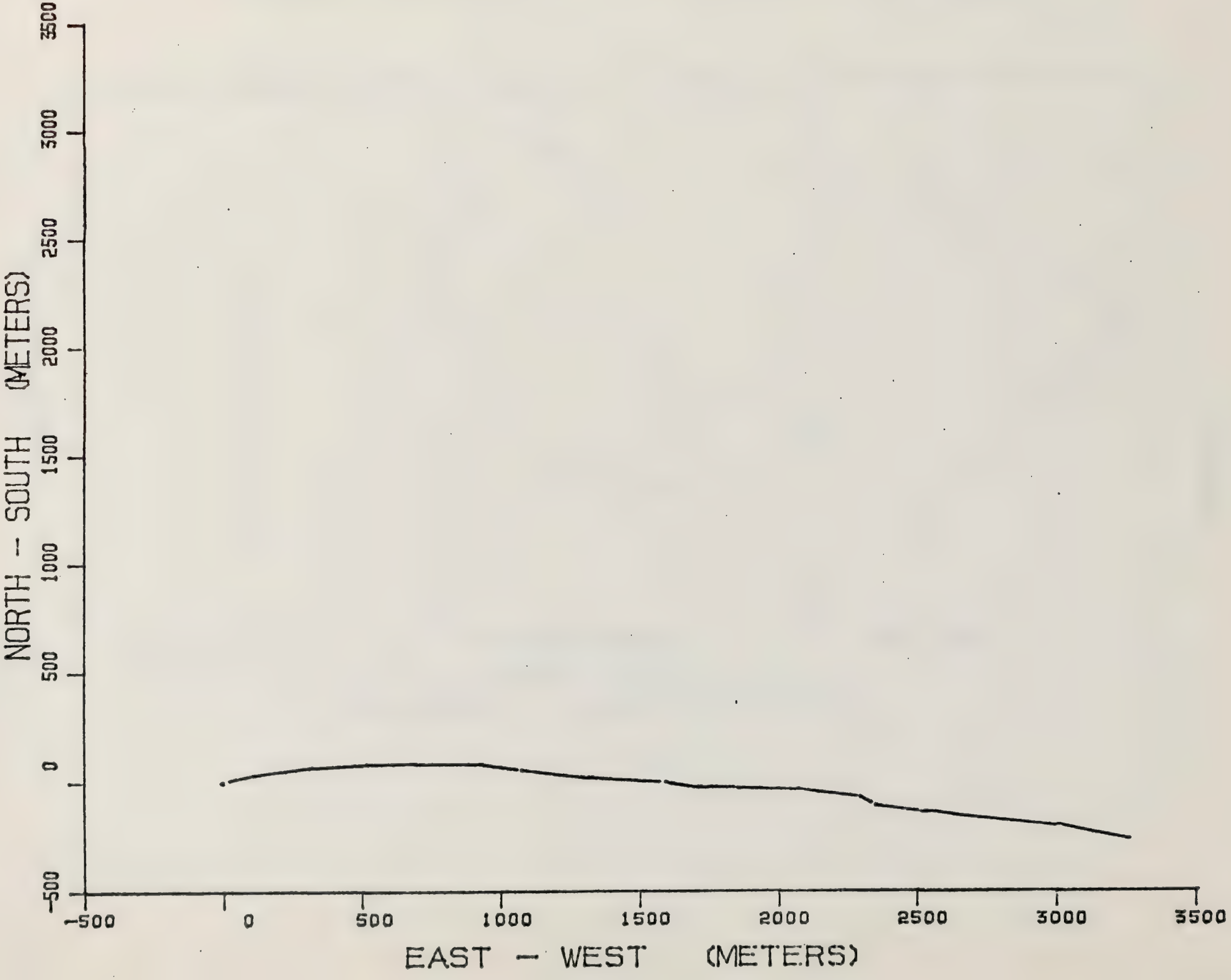
HEIGHT  DIRECTION  SPEED  TEMP
METERS   DEGREES   M/SEC

  105.       251        1.9  -5.9
  206.       258        5.4  -6.0
  299.       263        6.9  -6.5
  415.       267        6.5  -5.8
  503.       269        6.9  -3.9
  600.       274        6.2  -1.9
  670.       279        6.0    .0
  739.       277        8.7   -.9
  820.       277        7.2  -1.7
  873.       275        8.0  -2.6
  970.       275        9.7  -3.5
 1047.       265        4.8  -4.3
 1091.       287        4.0  -5.2
 1162.       278       11.0  -6.1
 1308.       280       12.5  -7.0
```

C-B SOUNDING — PLOTTED ON 06/JUL/78

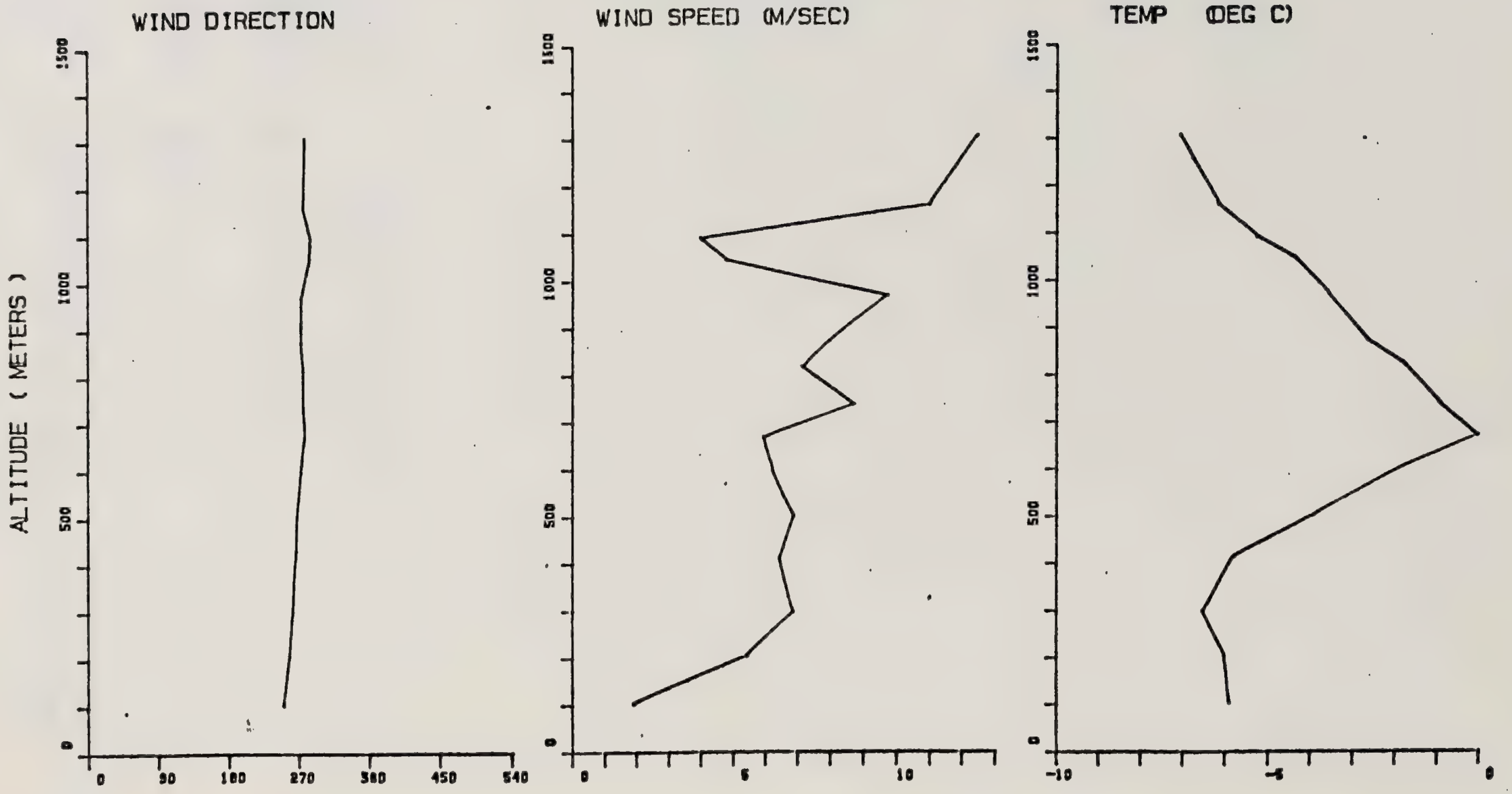
TIME 645 DATE 4/28/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 06/JUL/78

TIME 645 DATE 4/28/78



C-b Sounding

Time: Afternoon   Date: 4/28/78

No data taken.

PRECIPITATION
CM *100

CB-TRACT
TRAILER 20
APR 1978
OCCIDENTAL OIL SHALE INC.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TL	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)		( )
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)		( )
3	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)				3												3	3
4																										
5					18	15	(TR)	3	(TR)	(TR)	(TR)	3						(TR)	(TR)	(TR)	(TR)	(TR)			38	18
6																										
7																										
8																										
9																			(TR)	(TR)	(TR)	3	(TR)	(TR)	3	3
10	3																								3	3
11																										
12																			(TR)	(TR)	3				3	3
13																	3								3	3
14																			(TR)	3	(TR)				3	3
15																		(TR)	3	(TR)	3				5	3
16															5	15	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3	(TR)	23	15
17	(TR)	(TR)	(TR)	(TR)	(TR)	3																			3	3
18		(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3												(TR)	(TR)	(TR)	(TR)	(TR)	3	3
19	(TR)	(TR)	3																						3	3
20																										
21												(TR)	3	(TR)	3	3	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	8	3
22	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)												(TR)	(TR)	(TR)	(TR)	(TR)	(TR)		
23	(TR)	(TR)	3																	(TR)	(TR)	(TR)	(TR)	3	5	3
24	(TR)	(TR)	(TR)	3															(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3	3
25	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)													(TR)	(TR)	(TR)	(TR)	(TR)		
26	3																		(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3	3
27	3	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3	3	5	(TR)	3	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)					15	5
28																			(TR)	(TR)	(TR)	(TR)	(TR)	(TR)		
29	(TR)	3											(TR)			5	(TR)	(TR)	15	(TR)	(TR)	(TR)	(TR)	(TR)	23	15
30	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)					13	10	(TR)					(TR)	(TR)	(TR)	(TR)	(TR)	3	25	13
TL	8	3	5	3	18	18		8	3	5		18	15		8	23	3		18	3	5	3	3	5	170	
PK	3	3	3	3	18	15		3	3	5		13	10		5	15	3		15	3	3	3	3	3		18

PRECIPITATION
CM *100

CB-TRACT
TRAILER 23
APR 1978
OCCIDENTAL OIL SHALE INC.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TL	PEAK
1	13	(TR)					20	8	(TR)	5			13			5	8								71	20
2	8	5		(TR)	(TR)	(TR)	(TR)	3				10	3			23								5	56	23
3	5	(TR)	3	(TR)	3	3	(TR)	5	8																25	8
4																										
5				(TR)	20	(TR)	3	3	(TR)	18															43	20
6																										
7																										
8																										
9																										
10	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)																			
11																										
12																										
13																										
14																										
15																										
16																(TR)	5	15	3						23	15
17																										
18																										
19																										
20																										
21											(TR)	3	(TR)	3	(TR)	3									8	3
22																										
23																										
24																										
25																										
26																										
27		(TR)	(TR)	(TR)	(TR)	(TR)	(TR)																			
28																										
29												(TR)	(TR)	(TR)	(TR)											
30																				(TR)	(TR)	(TR)	(TR)	3	3	3
TL	25	5	3		23	3	23	18	8	23		13	15	3		30	13	15	3					8	229	
PK	13	5	3		20	3	20	8	8	18		10	13	3		23	8	15	3					5		23

SECTION 3.0

AIR QUALITY

HYDROGEN SULFIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 07/JUL/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	0	0
5	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	21	17	0	33	21	0	0	0	0	18	17	6	0	0	0	0	0	0	0	0	0	0	0	6	33
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	17	0	0	0	0	0	0	0	1	19
8	0	0	0	0	0	0	0	0	[CA]	[CA]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[CA]	[CA]	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	[CA]	0	14	14	3	0	0	0	0	0	0	0	0	0	1	14
12	0	8	17	0	0	0	0	0	6	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	22
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	14	0	0	0	0	1	14
14	0	0	1	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	1	14
15	0	14	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	21
16	0	0	0	0	0	0	4	0	0	0	0	4	21	8	10	3	0	0	0	0	6	14	3	0	3	21
17	0	0	0	0	0	0	0	0	0	14	35	0	0	0	0	0	0	0	0	0	0	0	0	0	2	35
18	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	1	1	1	1	1	3	4	0	0	0	0	0	0	0	0	0	0	4
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	1	1	1	3	1	3	3	6	3	3	3	4	1	1	0	0	0	0	0	3	0	0	2	6
23	0	1	3	3	3	4	4	3	3	3	3	3	3	3	3	0	4	3	1	1	1	3	4	3	3	4
24	3	3	3	6	3	3	3	4	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	2	6
25	0	0	0	0	0	0	0	0	0	0	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	3
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	0	2	2	0	1	1	0	0	1	2	2	1	2	1	1	1	1	0	0	1	0	1	0	1	1	[ ]
SD	1	5	6	1	6	4	1	1	1	5	7	3	5	3	2	4	3	1	0	3	1	3	1	3	1	[ ]

AQOUT (15 MAY 78)

SULFUR DIOXIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 07/JUL/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	3
4	0	0	0	0	0	0	0	0	0	0	0	0	0	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	0	0
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	8	16	13	0	16	16	10	10	8	5	26	18	13	5	(CA)	0	0	0	0	0	0	0	0	0	7	26
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	13	5	5	0	0	0	0	0	0	1	13
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(CA)	(CA)	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	(CA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
13	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	18	8	8	8	8	8	18
14	8	8	10	5	5	8	5	5	0	0	0	0	0	0	0	0	0	0	5	5	5	5	5	16	4	16
15	8	18	16	5	5	5	5	5	5	5	0	3	5	5	5	5	5	5	5	5	0	3	3	5	6	18
16	5	5	5	5	5	5	5	5	3	3	3	3	5	5	5	5	3	3	5	5	5	13	8	5	5	13
17	5	5	5	5	3	3	3	0	8	16	21	0	0	0	0	0	0	0	0	0	0	0	0	0	3	21
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10	3	0	3	0	0	0	0	0	1	10
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	5	8	8	8	8	0	0	2	8
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	5	3	3	5	5	3	5	10	8	5	5	5	3	3	3	3	0	0	0	3	0	0	3	10
23	0	0	3	5	8	8	8	5	5	5	5	5	5	5	3	3	5	10	5	3	3	5	5	5	5	10
24	5	5	5	5	5	5	5	8	5	8	5	5	5	5	5	8	8	8	8	8	3	0	0	0	5	8
25	0	0	0	0	0	0	0	0	0	0	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	3
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(CA)	3	3	5	3	3	8	3	3	1	8
28	3	5	3	3	3	0	3	3	(CA)	(CA)	0	8	5	0	5	3	5	3	3	3	3	3	3	0	3	8
29	0	3	3	5	5	3	5	3	3	3	3	0	0	3	5	5	5	5	5	5	8	8	5	8	4	8
30	10	8	5	5	5	8	5	8	8	5	5	5	5	3	3	3	3	5	5	5	8	5	3	8	6	10
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	2	3	3	2	2	3	2	2	2	2	3	2	2	2	2	3	2	2	2	2	2	2	2	2	2	( )
SD	3	5	4	3	4	4	3	3	3	4	6	4	3	2	3	4	3	3	3	4	3	4	2	4	2	( )

AQOUT (15 MAY 78)

TOTAL HYDROCARBONS

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 11/JUL/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	1245	1376	1441	1310	1310	1376	1507	1638	1507	1507	1769	1900	1834	1769	1834	1834	1441	1507	1507	1507	1441	1376	1441	1572	1540	1900
2	1572	1769	1638	1572	1703	1441	1441	1638	1965	1965	2031	2031	1900	1769	1441	1441	1441	1376	1441	1507	1507	1638	1572	1376	1632	2031
3	1441	1310	1376	1441	1376	1376	1507	1572	1638	1965	2162	2162	2358	1310	1114	1245	1376	1441	1310	1310	1310	1310	1507	1441	1515	2358
4	1376	1376	1441	1376	1376	1376	1507	1638	1703	2162	1965	1900	1572	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1598	2162
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(CA)	983	1245	1048	1114	1179	1310	1310	1310	1376	1376	1245	1310	1376	1245	1376
6	1179	1114	983	1114	1048	917	1310	1179	1048	1179	1179	1310	1179	1048	(CA)	1310	1703	1376	1834	1703	1507	1572	1441	1572	1296	1834
7	1507	917	1507	1441	(IM)	(IM)	(IM)	2227	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(CA)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1520	2227
8	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
9	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
10	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
11	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(MT)	(MT)	(MT)	(MT)	1376	1376	1441	1310	1441	1376	1441	1441	1441	1405	1441
12	1376	1441	1376	1245	1114	1245	1245	1638	1834	2031	2096	2162	2031	1900	1048	917	1114	852	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1481	2162
13	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
14	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1179	852	852	786	983	917	1310	1310	1376	1114	917	1376	1310	1441	1310	1136	1441
15	1376	1245	1179	1179	1114	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1219	1376
16	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
17	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(CA)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
18	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
19	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1048	1179	1310	1310	1310	1310	1310	1310	1310	1266	1310
20	1310	1310	1310	1245	1310	1310	1376	1638	2031	2162	2162	2227	1965	1900	1703	1376	1179	1310	1376	1310	1376	1376	1376	1441	1545	2227
21	1376	1507	1441	1376	1376	1441	1572	1769	1769	1703	1441	1376	1310	(CA)	983	1114	1114	1245	1179	1245	1179	1179	1179	1179	1350	1769
22	1179	1245	1245	1245	1245	1310	1441	1703	1769	1900	1703	1441	1507	1572	1638	1572	1507	1507	1441	1310	1376	1441	1310	1310	1455	1900
23	1310	1310	1310	1310	1441	1507	1572	1900	2096	2227	2227	2162	2096	1965	1965	1900	1900	1900	1900	1703	1638	1638	1638	1507	1755	2227
24	1507	1507	1441	1441	1441	1441	1638	2031	2358	2424	1965	1507	1638	1703	1638	983	1179	1310	1376	1376	1441	1507	1572	1572	1583	2424
25	1507	1507	1507	1507	1572	1638	1769	2031	2227	2293	2293	2096	1965	(CA)	1507	1638	1310	1441	1507	1441	1376	1507	1572	1572	1686	2293
26	1638	1703	1769	1834	1769	1638	1769	1834	1834	1638	1441	1441	1441	1441	1310	1310	1376	1441	1572	1572	1572	1507	1245	1310	1559	1834
27	1310	1376	1441	1507	1507	1507	1703	1900	1900	1900	1638	1638	1441	1507	(RF)	(RF)	1572	1507	1638	1507	1507	1507	1572	1638	1578	1900
28	1703	1769	1769	1507	1507	1834	1900	2162	(CA)	1769	655	1114	1245	1179	1179	1310	1376	1441	1441	1376	1441	1507	1572	1572	1493	2162
29	1507	1572	1572	1572	1572	1638	1703	2096	2227	2358	2358	2162	2031	2096	2096	1703	1703	1769	1572	1572	1572	1638	1638	1638	1807	2358
30	1572	1572	1638	1638	1703	1703	1965	2031	2162	2096	2096	2096	1965	1965	1965	1834	1769	1769	1769	1638	1572	1638	1572	1572	1804	2162
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	1421	1417	1441	1414	1416	1453	1584	1812	1879	1914	1780	1714	1658	1572	1466	1389	1412	1431	1469	1427	1434	1455	1458	1458	1499	( )
SD	144	211	189	172	201	204	194	254	314	355	481	438	391	357	372	283	218	213	204	180	110	137	134	131	180	( )

AQOUT (15 MAY 78)

METHANE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*                   *
*    FINAL DATA     *
*  AS OF 07/JUL/78  *
*                   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	852	852	786	786	852	852	852	852	852	917	917	983	983	852	786	786	786	786	852	917	917	983	983	1048	876	1048
2	1048	1048	1048	1048	983	983	983	917	983	917	917	917	983	983	917	917	917	852	852	917	852	917	917	917	947	1048
3	917	917	917	917	983	917	983	917	917	983	983	917	852	917	917	917	917	852	917	917	917	852	852	852	914	983
4	852	852	852	786	721	655	655	590	590	786	721	786	721	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	736	852
5	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[CA]	852	852	852	852	852	852	852	852	852	852	852	852	852	852	852
6	852	786	786	786	721	655	655	590	590	524	590	721	655	655	852	917	983	917	852	721	721	655	655	590	726	983
7	524	524	524	590	524	524	590	655	590	590	590	590	524	524	[CA]	852	852	852	852	852	917	852	852	852	678	917
8	917	917	983	917	917	917	917	1048	1048	983	983	983	852	786	786	786	786	786	852	917	917	983	983	983	914	1048
9	983	983	983	983	1048	1048	1048	1048	1048	983	1048	1048	1048	1048	1048	1048	1048	1048	1048	983	983	983	917	917	1015	1048
10	786	786	786	786	786	786	721	786	852	786	786	786	786	786	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	786	852
11	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[MT]	[MT]	[MT]	[MT]	917	917	917	917	917	852	917	917	917	910	917
12	983	1048	1048	917	917	917	917	983	983	983	1048	983	983	983	917	917	917	917	917	917	917	917	852	852	947	1048
13	917	917	917	917	983	983	983	983	983	917	917	917	917	917	917	917	852	852	852	852	852	917	852	852	912	983
14	852	852	852	852	852	852	852	852	852	852	852	852	852	852	917	917	917	917	852	852	852	852	852	852	863	917
15	852	852	852	852	852	852	852	852	917	852	852	852	852	852	852	852	852	852	852	852	852	852	852	852	855	917
16	852	852	852	852	852	786	852	852	852	852	852	852	852	786	852	852	917	852	852	852	852	852	852	917	852	917
17	917	917	852	917	852	917	917	852	917	917	[CA]	917	983	917	917	917	917	917	917	852	917	917	917	983	911	983
18	852	917	852	917	852	852	917	917	917	917	917	917	917	917	917	917	917	917	917	917	917	983	917	917	909	983
19	917	917	917	917	917	917	983	917	983	983	983	983	983	983	983	917	917	917	917	983	917	917	917	917	942	983
20	917	917	917	917	917	917	917	917	983	1048	1048	1179	983	983	917	917	917	917	917	917	917	917	917	852	944	1179
21	917	852	917	917	917	917	983	917	917	917	983	983	917	852	852	917	917	983	917	983	917	917	917	917	923	983
22	917	917	983	917	917	983	983	983	983	1048	983	983	983	983	983	983	983	983	983	917	917	983	917	983	966	1048
23	983	983	983	983	983	983	983	983	1048	1048	1048	1114	1114	1048	983	983	983	1048	983	983	983	983	983	983	1007	1114
24	983	983	983	983	983	983	1048	1048	1048	1114	983	983	983	983	983	917	917	852	852	917	917	852	852	917	961	1114
25	852	852	852	917	852	852	917	917	983	983	1048	983	983	[CA]	852	917	917	917	917	852	852	852	917	852	906	1048
26	852	852	917	917	852	852	917	917	917	917	917	852	917	917	917	917	917	917	852	917	852	917	852	852	893	917
27	852	852	852	852	852	852	917	917	917	917	917	917	917	917	983	[CA]	917	917	917	917	917	917	983	983	909	983
28	983	983	983	983	983	983	983	983	917	983	[CA]	917	852	852	852	852	917	917	917	917	917	917	917	917	932	983
29	917	917	917	917	917	917	917	983	983	983	983	983	983	917	983	983	917	983	852	917	917	917	917	917	939	983
30	917	917	917	917	917	917	917	983	983	917	917	917	917	917	917	917	983	983	983	917	917	917	917	852	928	983
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	892	891	894	891	882	877	899	899	913	915	915	920	902	888	910	907	912	908	899	901	894	903	894	896	895	[ ]
50	92	96	101	86	103	113	113	119	126	124	124	112	118	112	64	56	55	65	52	54	50	66	64	80	76	[ ]

AJOUT [15 MAY 78]

HYDROCARBONS (CORRECTED FOR CH4)

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*     FINAL DATA     *
*  AS OF 11/JUL/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	393	524	655	524	459	524	655	786	655	590	852	917	852	917	1048	1048	655	721	655	590	524	393	459	524	663	1048
2	524	721	590	524	721	459	459	721	983	1048	1114	1114	917	786	524	524	524	524	590	590	655	721	655	459	685	1114
3	524	393	459	524	393	459	524	655	721	983	1179	1245	1507	393	197	328	459	590	393	393	393	459	655	590	601	1507
4	524	524	590	590	655	721	852	1048	1114	1376	1245	1114	852	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	862	1376
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(CA)	131	393	197	262	328	459	459	459	524	524	393	459	524	393	524
6	328	328	197	328	328	262	655	590	459	655	590	590	524	393	(CA)	393	721	459	983	983	786	917	786	983	576	983
7	983	393	983	852	(IM)	(IM)	(IM)	1572	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(CA)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	957	1572
8	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
9	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
10	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
11	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(MT)	(MT)	(MT)	(MT)	459	459	524	393	524	524	524	524	524	495	524
12	393	393	328	328	197	328	328	655	852	1048	1048	1179	1048	917	131	0	197	0	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	521	1179
13	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
14	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	328	0	0	0	131	0	393	393	459	262	66	524	459	590	459	271	590
15	524	393	328	328	262	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	367	524
16	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
17	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(CA)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
18	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
19	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	131	262	393	393	328	393	393	393	393	342	393
20	393	393	393	328	393	393	459	721	1048	1114	1114	1048	983	917	786	459	262	393	459	393	459	459	459	590	601	1114
21	459	655	524	459	459	524	590	852	852	786	459	393	393	(CA)	131	197	197	262	262	262	262	262	262	262	425	852
22	262	328	262	328	328	328	459	721	786	852	721	459	524	590	655	590	524	524	459	393	459	459	393	328	489	852
23	328	328	328	328	459	524	590	917	1048	1179	1179	1048	983	917	983	917	917	852	917	721	655	655	655	524	748	1179
24	524	524	459	459	459	459	590	983	1310	1310	983	524	655	721	655	66	262	459	524	459	524	655	721	655	622	1310
25	655	655	655	590	721	786	852	1114	1245	1310	1245	1114	983	(CA)	655	721	393	524	590	590	524	655	655	721	781	1310
26	786	852	852	917	917	786	852	917	917	721	524	590	524	524	393	393	459	524	721	655	721	590	393	459	666	917
27	459	524	590	655	655	655	786	983	983	983	721	721	524	590	(IM)	(CA)	655	590	721	590	590	590	590	655	673	983
28	721	786	786	524	524	852	917	1179	(CA)	786	(CA)	197	393	328	328	459	459	524	524	459	524	590	655	655	599	1179
29	590	655	655	655	655	721	786	1114	1245	1376	1376	1179	1048	1179	1114	721	786	786	721	655	655	721	721	721	868	1376
30	655	655	721	721	786	786	1048	1048	1179	1179	1179	1179	1048	1048	1048	917	786	786	786	721	655	721	655	721	876	1179
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	528	528	545	524	521	563	671	921	962	979	913	776	745	659	557	476	491	518	569	521	545	559	562	566	612	( )
30	172	160	205	175	191	181	191	236	228	287	353	394	341	304	356	282	202	185	197	194	122	154	138	161	181	( )

AQOUT (15 MAY 78)

CARBON MONOXIDE

MILLIGRAMS PER CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*     FINAL DATA     *
*  AS OF 07/JUL/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.5	.5	.5	.3	.5
2	.3	.3	.5	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.5	.3	.3	.5	.5	.3	.3	.5	.3	.3	.5
3	.5	.3	.3	.3	.3	.5	.5	.5	.5	.3	.3	.3	.3	.3	.5	.5	.3	.3	.3	.5	.5	.5	.5	.3	.4	.5
4	.3	.3	.5	.5	.5	.3	.5	.5	.5	.5	.3	.5	.3	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	.4	.5
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(HF)	(CA)	.3	.3	.3	.3	.3	.5	.3	.3	.3	.3	.3	.3	.5	.3	.5
6	.3	.6	.5	.3	.3	.5	.3	.5	.3	.3	.3	.3	.3	.3	.3	.5	.3	.3	.3	.5	.3	.3	.3	.3	.4	.6
7	.3	.2	.2	.3	.3	.2	.3	.3	.3	.3	.2	.2	.3	.2	(CA)	.5	.5	.3	.5	.5	.5	.5	.5	.3	.3	.5
8	.3	.3	.3	.5	.5	.5	.5	.5	.5	.5	.5	.3	.5	.5	.3	.3	.3	.3	.5	.5	.5	.5	.3	.5	.4	.5
9	.5	.5	.3	.5	.3	.3	.5	.5	.3	.3	.3	.5	.5	.5	.7	.3	.5	.3	.5	.3	.3	.5	.5	.5	.4	.7
10	.5	.3	.3	.5	.5	.5	.5	.3	.3	.3	.3	.5	.5	.5	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	.4	.5
11	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(MT)	(MT)	(MT)	(MT)	.3	.3	.5	.3	.3	.5	.3	.3	.3	.3	.5
12	.3	.3	.3	.3	.3	.5	.6	.3	.3	.5	.5	.5	.5	.3	.3	.3	.3	.3	.3	.3	.3	.3	.5	.3	.4	.6
13	.3	.5	.3	.3	.6	.5	.3	.5	.5	.3	.5	.5	.3	.3	.3	.3	.2	.3	.3	.5	.3	.3	.3	.3	.4	.6
14	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.3	.3	.2	.3	.3	.2	.2	.3	.3
15	.2	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
16	.3	.3	.3	.3	.3	.3	.3	.2	.5	.3	.3	.5	.5	.5	.5	.5	.8	.5	.7	.3	.5	.5	.3	.3	.4	.8
17	.5	.5	.5	.3	.3	.5	.3	.5	.3	.6	(CA)	.3	.5	.3	.5	.3	.3	.3	.3	.5	.5	.3	.5	.3	.4	.6
18	.3	.3	.3	.3	.5	.3	.3	.3	.3	.3	.5	.5	.3	.3	.5	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.5
19	.5	.3	.3	.3	.3	.3	.3	.5	.5	.5	.5	.5	.5	.5	.5	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.5
20	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
21	.3	.5	.5	.3	.6	.5	.5	.6	.5	.6	.6	.6	.5	.5	.5	.5	.5	.5	.3	.6	.5	.5	.5	.5	.5	.6
22	.5	.5	.5	.6	.5	.6	.6	.7	.5	.5	.7	.7	.6	.6	.5	.6	.6	.6	.5	.5	.5	.6	.5	.6	.6	.7
23	.5	.5	.7	.6	.6	.6	.5	.6	.7	.6	.6	.6	.7	.6	.5	.6	.6	.6	.6	.6	.6	.5	.6	.6	.6	.7
24	.7	.6	.6	.6	.7	.6	.6	.6	.6	.6	.6	.6	.6	.5	.6	.6	.3	.3	.3	.5	.3	.3	.3	.3	.5	.7
25	.3	.3	.3	.5	.3	.3	.3	.3	.5	.3	.3	.3	.3	(CA)	.3	.3	.3	.3	.3	.3	.3	(RF)	(RF)	(RF)	.3	.5
26	(RF)	(RF)	(RF)	(RF)	(RF)	(HF)	(RF)	(RF)	(RF)	(HF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
27	(RF)	(RF)	(RF)	(HF)	(RF)	(HF)	(RF)	(HF)	(RF)	(HF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
28	(RF)	(RF)	(HF)	(RF)	(RF)	(RF)	(RF)	(HF)	.5	.3	(CA)	.3	.3	.3	.3	.5	.3	.3	.3	.3	.3	.5	.5	.3	.4	.5
29	.3	.3	.3	.5	.3	.3	.5	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.5	.3	.5	.5	.3	.5	.4	.5
30	.3	.3	.5	.3	.3	.3	.3	.5	.5	.3	.5	.5	.3	.3	.3	.3	.3	.5	.5	.3	.5	.5	.3	.3	.4	.5
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	( )
SD	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	( )

AQOUT (15 MAY 78)

OXIDES OF NITROGEN

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 07/JUL/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	0	0
5	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[CA]	[CA]	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[CA]	[CA]	4	2	0	0	0	0	0	0	0	4
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	0	2	2	0	2
29	2	2	2	2	2	0	2	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	1	2
30	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[ ]
SD	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	[ ]

AQOUT (15 MAY 78)

NITRIC OXIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*  AS OF 11/JUL/78   *
*                    *
**********************
```

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	1	[HF]	[RF]	[RF]	[HF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	0	1
5	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[HF]	[RF]	[RF]	[RF]	6	6	6	6	6	2	5	0	2	1	0	1	0	4	3	6
6	4	2	2	2	4	1	0	0	0	0	6	1	0	0	4	5	2	5	1	2	6	6	5	5	3	6
7	4	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	1	2	4	4	4	4	2	2	4
8	2	2	2	1	1	1	1	1	1	0	1	1	1	0	1	0	1	1	2	1	1	1	1	1	1	2
9	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	[CA]	[CA]	1	1	2	1	1	1	2	6	1	6
11	5	2	2	1	1	1	1	2	1	1	[CA]	4	4	4	2	4	2	2	2	2	2	2	4	4	2	5
12	4	2	4	2	4	4	4	4	4	6	2	4	2	2	5	4	4	4	4	4	4	4	4	5	4	6
13	5	4	5	4	4	4	4	4	4	4	2	2	4	2	4	4	4	4	4	5	4	4	4	4	4	5
14	4	4	4	4	4	2	4	4	4	2	2	2	2	2	2	2	2	2	2	2	4	4	4	5	3	5
15	2	6	5	4	2	2	2	2	2	2	4	4	2	2	2	2	2	2	2	4	4	4	2	2	3	6
16	2	2	2	2	2	2	4	2	5	4	4	4	2	2	2	2	2	2	2	1	1	4	2	2	2	5
17	2	2	2	2	2	2	2	4	4	5	[CA]	4	2	4	4	4	2	4	2	2	2	2	4	4	3	5
18	2	2	4	4	5	4	4	4	4	2	2	2	2	2	5	5	4	4	4	4	4	5	4	4	4	5
19	4	4	5	5	6	7	9	10	11	10	11	10	12	11	10	4	4	4	4	4	4	4	4	5	7	12
20	4	4	4	4	4	5	4	5	4	5	6	6	6	7	5	4	5	6	6	6	6	5	5	5	5	7
21	6	6	5	5	5	7	6	6	6	6	9	7	10	4	5	5	4	4	4	5	5	5	6	6	6	10
22	6	7	7	7	9	9	10	10	12	10	10	10	10	9	9	9	7	9	7	7	7	6	6	6	8	12
23	6	6	9	10	11	11	10	10	10	10	10	10	9	9	7	9	7	7	9	10	10	10	10	11	9	11
24	9	9	10	10	10	10	10	10	10	10	10	10	10	10	9	4	4	4	4	4	4	4	4	4	8	10
25	4	2	4	4	2	4	4	4	5	6	6	7	10	4	4	4	2	2	2	4	4	2	4	4	4	10
26	4	4	4	5	6	5	4	4	4	4	5	4	4	4	4	4	2	4	5	5	4	4	4	4	4	6
27	2	2	2	2	2	2	2	2	2	2	2	4	6	5	[CA]	[CA]	7	6	7	7	9	9	9	9	5	9
28	9	9	9	7	6	7	7	7	7	10	9	9	7	7	7	7	7	7	6	7	7	7	7	7	7	10
29	7	7	7	9	7	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	9	7	7	9
30	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	9	7	7	7	7	9
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	4	4	4	4	4	4	[ ]
SD	3	3	3	3	3	3	3	3	3	3	4	3	4	3	3	3	2	2	2	3	3	3	3	3	3	[ ]

ADOUT (15 MAY 78)

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NITROGEN DIOXIDE

MICROGRAMS/CUBIC METER
                                                     C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                          *                    *
                                                     SITE   23                            *     FINAL DATA     *
                                                                                          *  AS OF 11/JUL/78   *
                                                     APR, 1978                            *                    *
                                                                                          **********************
                                                     AEROVIRONMENT INC.


                                     CLOCK HOUR  (LOCAL STANDARD TIME)

DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23   AVE  PEAK

 1      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 2      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 3      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 4      0     0     0     0     0     0     0     0     0     0     0     0     0  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     0     0
 5   [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 6      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 7      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 8      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 9      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
10      0     0     0     0     0     0     0     0     0     0     0     0     0     0  [CA]  [CA]     0     0     0     0     0     0     0     0     0     0
11      0     0     0     0     0     0     0     0     0     0  [CA]     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
12      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
13      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
14      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
15      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
16      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
17      0     0     0     0     0     0     0     0     0     0  [CA]     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
18      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
19      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
20      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
21      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
22      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
23      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
24      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
25      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
26      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
27      0     0     0     0     0     0     0     0     0     0     0     0     0     0  [CA]  [CA]     0     0     0     0     0     0     0     0     0     0
28      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
29      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
30      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
31    [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]

AV      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0   [ ]
30      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0   [ ]

ADOUT    [15 MAY 78]
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OZONE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 17/JUL/78

CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	43	51	61	61	51	43	51	69	61	61	69	69	69	78	78	78	78	78	78	78	78	69	61	61	66	78
2	69	69	78	86	94	86	78	69	78	78	78	78	86	86	86	86	86	86	86	86	86	86	78	78	82	94
3	86	69	69	69	69	61	61	78	78	86	86	86	94	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	76	94
4	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
5	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	94	86	94	94	104	104	104	104	104	94	78	94	94	94	96	104
6	94	94	94	86	86	94	94	104	104	104	104	112	112	112	122	112	112	112	112	104	104	104	94	94	103	122
7	94	104	104	104	104	94	94	104	104	94	94	94	94	94	94	94	94	94	86	86	86	94	94	94	95	104
8	94	94	86	86	78	69	69	78	86	94	94	104	112	112	112	104	104	94	104	94	94	78	78	86	92	112
9	86	69	61	51	61	61	51	51	61	61	69	69	78	86	94	104	104	94	94	94	86	86	78	78	76	104
10	69	69	69	78	78	69	51	69	78	94	86	86	86	86	[CA]	[CA]	86	86	86	86	86	78	78	69	78	94
11	78	78	78	78	78	78	78	86	86	86	[CA]	78	78	78	78	78	78	78	69	69	69	69	69	61	76	86
12	61	69	61	69	69	61	61	69	78	86	94	94	94	104	94	104	104	104	94	78	78	78	78	86	82	104
13	78	78	78	61	61	61	43	51	69	86	94	104	104	104	104	104	112	104	86	78	61	51	51	61	78	112
14	51	51	43	51	51	61	51	25	69	69	78	78	86	94	94	94	94	94	86	86	86	78	78	69	72	94
15	61	69	78	78	86	78	78	78	78	86	86	86	94	94	94	94	94	86	86	69	69	69	69	78	81	94
16	78	69	69	86	86	78	78	86	86	86	86	86	66	86	86	86	86	78	78	69	69	78	78	94	81	94
17	86	78	78	69	69	69	69	69	86	86	86	94	94	94	94	94	104	94	94	94	94	86	86	86	86	104
18	78	78	78	78	78	78	69	78	86	94	94	94	94	94	104	104	104	104	78	86	78	86	86	86	87	104
19	78	86	78	86	86	86	78	69	86	94	104	112	112	112	112	104	104	94	86	61	78	69	78	78	89	112
20	78	86	86	86	86	86	78	78	86	94	94	104	94	104	104	94	104	104	104	94	94	94	94	86	92	104
21	86	104	104	94	86	86	112	137	137	129	122	104	104	[CA]	104	104	104	86	94	86	78	86	69	78	100	137
22	78	86	86	78	78	86	86	86	94	104	104	104	104	104	104	104	94	94	94	86	86	86	86	86	92	104
23	78	86	86	94	86	86	86	94	104	104	104	104	104	94	94	94	94	94	94	86	86	78	78	78	91	104
24	78	86	86	86	78	86	78	86	86	86	94	86	86	94	94	86	86	86	78	69	69	61	61	61	81	94
25	61	69	69	69	78	69	69	69	78	86	94	112	112	112	104	104	104	112	112	94	86	86	86	94	89	112
26	86	86	86	94	94	86	86	94	86	86	86	78	78	86	86	86	86	86	78	78	61	61	51	61	81	94
27	61	51	43	43	43	43	51	69	86	94	112	112	122	112	[CA]	[CA]	108	108	98	88	78	69	78	69	79	122
28	69	59	69	59	49	49	49	59	59	59	69	69	78	78	78	78	78	78	78	69	59	59	49	49	65	78
29	39	49	39	39	39	39	39	49	49	59	59	69	78	78	69	69	69	69	78	59	69	78	78	98	61	98
30	98	98	88	78	69	69	88	108	108	108	88	78	78	78	78	78	78	78	78	69	69	78	69	69	82	108
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	75	76	75	75	74	72	71	77	84	88	90	91	93	94	95	94	95	92	89	82	79	78	76	78	83	[ ]
SD	15	15	16	16	16	15	17	21	17	16	14	14	13	12	12	11	12	11	11	11	11	12	12	13	10	[ ]

AOOUT [15 MAY 78]

PARTICULATES (24 HR. AVG)

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

APR, 1978

AEROVIRONMENT INC.

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*********************
*                   *
*    FINAL DATA     *
*  AS OF 13/JUL/78  *
*                   *
*********************
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SITE

DAY	23	20	42	56	PEAK
1	[ ]	[ ]	[ ]	[ ]	[ ]
2	.0	.0	2.6	1.5	2.6
3	[ ]	[ ]	[ ]	[ ]	[ ]
4	[ ]	[ ]	[ ]	[ ]	[ ]
5	[ ]	4.7	[ ]	4.3	4.7
6	7.4	[ ]	.0	[ ]	7.4
7	[ ]	[ ]	[ ]	[ ]	[ ]
8	[ ]	[ ]	[ ]	[ ]	[ ]
9	33.0	27.2	[ ]	4.2	33.0
10	[ ]	[ ]	21.0	[ ]	21.0
11	[ ]	[ ]	25.2	[ ]	25.2
12	22.8	23.4	[ ]	12.9	23.4
13	[ ]	[ ]	[ ]	[ ]	[ ]
14	[ ]	[ ]	[ ]	[ ]	[ ]
15	22.3	3.9	18.4	10.8	22.3
16	[ ]	[ ]	[ ]	[ ]	[ ]
17	[ ]	[ ]	[ ]	[ ]	[ ]
18	14.5	13.0	5.8	8.2	14.5
19	[ ]	[ ]	[ ]	[ ]	[ ]
20	24.3	15.7	[ ]	9.4	24.3
21	[ ]	[ ]	[ ]	[ ]	[ ]
22	[ ]	[ ]	[ ]	[ ]	[ ]
23	[ ]	[ ]	[ ]	[ ]	[ ]
24	[IM]	28.3	[ ]	13.3	28.3
25	[ ]	[ ]	[ ]	[ ]	[ ]
26	[ ]	[ ]	[ ]	[ ]	[ ]
27	31.2	[IM]	1.6	12.6	31.2
28	[ ]	[ ]	[ ]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]
30	.2	3.9	2.9	1.8	3.9
31	[ ]	[ ]	[ ]	[ ]	[ ]
AV	17.3	13.3	9.7	7.9	[ ]
GM	8.7	8.6	5.4	6.2	[ ]
PK	33.0	26.3	25.2	13.3	[ ]

ADOUT [15 MAY 78]

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DATA REPORT

DP78-037

Final Submission

AIR QUALITY DATA
PROTOTYPE OIL SHALE LEASE TRACT C-b

Volume II

April 1978 Data

Submitted July 19, 1978

AeroVironment Inc.
145 Vista Avenue
Pasadena, California 91107

PREFACE

This volume is the final submission acquired during the air quality/ meteorology portions of the monitoring program for oil shale tract C-b. The period covered runs from 1 April through 30 April 1978.

This report is divided into two volumes. Volume I contains all of the basic data (hourly averages). Volume II contains all of the computer analysis reports.

TABLE OF CONTENTS

Section 1.0 - General

1.1 Introduction

1.2 Description of Reports
- 1.2.1 Description of Reports
- 1.2.2 Stability Class from ΔT Reports
- 1.2.3 Wind Speed and Direction by Stability Class Report
- 1.2.4 Five Maximum Independent Sliding Averages Report
- 1.2.5 Monthly and Daily Averages
- 1.2.6 Monthly and Daily Vectorial Wind Averages

1.3 Data Description
- 1.3.1 Description of Data Symbols
- 1.3.2 Data Acceptance Algorithm
- 1.3.3 Data Precision and Lower Detection Limit
- 1.3.4 AV Nomenclature for Components

Section 2.0 - Reports

2.1 Downtime hours by monthly % efficiency by parameter by site

2.2 Hourly table of stability class determined by ΔT

2.3 Wind speed and wind direction by stability class

2.4 Five maximum independent sliding averages

2.5 Monthly and daily averages

2.6 Monthly and daily vectorial wind averages

SECTION 1.0

GENERAL

1.0 GENERAL

1.1 Introduction

AeroVironment Inc. is performing an air quality and meteorological measurement program on the C-b shale oil tract for C-b Shale Oil Venture. Various parameters of air quality and meteorological data are collected at a network of sites. A listing of data collected during this month is contained in Section 1.3 of Volume I.

1.2 Description of Reports

1.2.1 Downtime Hours Report

This report calculates the numbers of hours of downtime by component and by site for each day. Downtime hours are:

MT (Maintenance)
FO (Flame Out)
IM (Instrument Malfunction)
PF (Power Failure)
RF (Recording Failure)
SE (Special Experiment)

Uptime hours are:

Numerical data values
CA (Calibration)
LI (Local Interference)
OS (Off Scale)
IN (Interference)
VA (Variable)
NV (Not Visible)

See section 1.3.1 for additional description of the letter codes. Hours before an instrument began operation are ignored. Percentage efficiency is the number of hours of uptime divided by total hours of data expected.

1.2.2 Stability Class from ΔT Report

Hourly values of stability class have been defined by using the Pasquill-Gifford stability classes. (Classes A – G) with Class A being the most unstable and Class G the most stable. They are determined from ΔT and corrected for wind speed according to the following formulas:

Class	ΔT (°C/100m)
A	< -1.9
B	- 1.9 to - 1.7
C	- 1.7 to - 1.5
D	- 1.5 to - 0.5
E	- 0.5 to 1.5
F	1.5 to 4.0
G	> 4.0

Wind Speed Adjustment

Stability From ΔT	Wind Speed (WS) m/s	"Adjusted Stability"
A	WS<2.00	A
	2.00<WS<5.00	B
	5.00≤WS≤6.00	C
	WS>6.00	D
B	WS<5.00	B
	5.00<WS≤6.00	C
	WS>6.00	D
C	WS≤6.00	C
	WS≥6.00	D
D	ALL SPEEDS	D
E	WS<5.00	E
	WS≥5.00	D

Stability From ΔT	Wind Speed (WS) m/s	"Adjusted Stability"
F	$WS<3.00$	F
	$3.00<WS\le 5.00$	E
	$WS>5.00$	D

Letter codes are used when the stability class cannot be determined (as when there is no ΔT data). If the wind speed data does not exist, the stability class will still be determined, but it will not be corrected for wind speed. These hours can be determined by looking for the malfunction codes in the next report, "Wind Speed and Direction by Stability Class".

1.2.3 Wind Speed and Direction by Stability Class Report

The hourly wind speed and direction (unit vector averaged) is determined for each hour of stability class data. A separate report is produced for each stability class, so wind speed and direction will only be printed in the hours where that particular stability class exists. If wind speed data does not exist, a malfunction code (see Section 1.3.1) will be printed in its place. The stability class will still be determined on the stability class report, however it will not be corrected for wind speed. If wind direction data does not exist, malfunction codes are printed in their place. Since a separate report is prepared for each stability class, blanks between brackets indicate that the hour in question is not the stability class of that report.

1.2.4 Five Maximum Independent Sliding Averages Report

The five highest sliding averages in a month are determined for each of the various air quality parameters for the periods for which there is a standard:

Component	Averaging Time
Ozone	1 hour
Carbon Monoxide	1 hour, 8 hours
Sulfur Dioxide	3 hours, 24 hours
Particulates	24 hours
Hydrocarbon (corrected for methane)	3 hours (6-9 am only)

The average is a "sliding average" for all averaging periods greater than 1 hour. Thus the first 8 hour average checked would be hours 00 through 07, the second one checked would be 01 through 08, and so forth. After the highest average has been determined, none of those values (8 in the case of an 8 hour average) would be used to determine the second highest average. Thus, a single high hourly average will only effect a single independent sliding average, no matter what the averaging period is.

The minimum sample size for determining these averages is:

Time Interval	Minimum number of observations
3-hour running average	3 consecutive hourly observations
8-hour running average	6 hourly observations
24-hour	18 hourly observations
Monthly	21 daily averages
Quarterly	3 consecutive monthly averages
Yearly	9 monthly averages with at least two monthly averages per quarter.

(From the EPA Quality Assurance Handbook).

1.2.5 Monthly and Daily Averages

A separate report was created to produce daily and monthly averages of all parameters. Unlike the averages printed on the hourly tables (in Volume I), the averages in this report must have 50% of the values except for temperature and relative humidity which require 75% because of possible diurnal bias.

1.2.6 Monthly and Daily Vectorial Wind Averages Report

This report calculates true vectorial wind averages for both wind speed and direction. The hourly tables in Volume I use a standard mean for wind speed and a unit vector average (vectorial average where wind speed is set equal to 1) for wind direction.

1.3 Data Description

1.3.1 Description of Data Symbols

Symbols used on the data sheets are:

CA	Calibration
MT	Maintenance (changing paper, tape, filters)
FO	Flame out (on the gas chromatographs)
IM	Instrument malfunction
PF	Power failure (generator failure, power outages)
RF	Recording system failure (chart jams, runs out, tape cassette fails, on-site computer goes down)
LI	Local interference (Car nearby, contamination by generator)
OS	Off scale (at top of chart data valve greater than range of instrument)
SE	Special experiment (instrument off-line for bag sample analysis or removed for special measurements in area.
VA	Variable wind direction
IN	Interference (CO_2 interference on sulfur data, SO_2 inteference in oxidant readings)
NV	Not visible (data not visible, within range of instrument/recorder; data presumed monitored)

See the attached example sheets.

1.3.2 Data Acceptance Algorithm

The EA chart recorder logs data once every 2-1/2 minutes giving about 24 values per hour. Strip chart data is considered to represent the hour if more than 30 minutes of the record is valid.

Data collected in the first 15 minutes after calibration is generally discarded. Data is considered erroneous if any of the status indication or the station log suggests instrument malfunctioning. In addition, air quality data collected in the first 15 minutes after a brief power outage (less than

10 minutes), in the first hour after a medium duration outage (up to one hour), or in the first four hours after longer outages, will be discarded as unreliable. Any anomalous data reflecting signal spikes or dropouts with a response rate faster than ascribable to atmospheric phenomena (e.g., a tripling of NO_x levels from one scan to the next, followed by a return to the old level on the succeeding scan) will be deleted as an artifice caused by the system.

As an additional check, the calibrated data is also screened manually. First, data is scanned to detect extreme values. When a spurious value is located, it will be checked for its validity. In all cases when invalidated data is deleted, a record of these deletions is maintained. Only the validated data will be reported.

1.3.3 Data Precision and Lower Detection Limit

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
		Air Quality		
SO_2	Meloy SA185-2A	10 $\mu g/m^3$	15 $\mu g/m^3$	15 $\mu g/m^3$
H_2S	Meloy SA185-2	6 $\mu g/m^3$	6$\mu g/m^3$	6 $\mu g/m^3$
NO	Monitor Labs 8440E	2 $\mu g/m^3$	5 $\mu g/m^3$	5 $\mu g/m^3$
NO_x	Monitor Labs 8400E	4 $\mu g/m^3$	5 $\mu g/m^3$	5 $\mu g/m^3$
NO_2	NO_x - NO	4 $\mu g/m^3$	6 $\mu g/m^3$	6 $\mu g/m^3$
THC	Bendix 8200	70 $\mu g/m^3$	70 $\mu g/m^3$	70 $\mu g/m^3$
CH_4	Bendix 8200	70 $\mu g/m^3$	70 $\mu g/m^3$	70 $\mu g/m^3$
NMHC	THC - CH_4	70 $\mu g/m^3$	90 $\mu g/m^3$	90 $\mu g/m^3$
CO	Bendix 8200	0.1 mg/m^3	0.1 mg/m^3	0.1 mg/m^3
O_3	Meloy OA 350-2	2 $\mu g/m^3$	20 $\mu g/m^3$	20 $\mu g/m^3$
TSP	GMWC-2000H	0.5 $\mu g/m^3$	6% or 1 $\mu g/m^3$*	1 $\mu g/m^3$
		Meteorology		
Wind Speed	MRI 1074-2 (Site 023, 10m, 30m, 60m)	0.5 m/s	1% or 1 m/s*	1 m/s
	MRI 1071 (Site 042, 056)	0.5 m/s	2% or 1 m/s*	1 m/s
	Weathermeasure W1034 (Site 020)	0.5 m/s	1% or 1 m/s*	1 m/s
Wind Direction	MRI 1074-2 (Site 023, 10m,30m,60m)	N/A	1%	N/A
	MRI 1071 (Site 042, 056)	N/A	5°	N/A

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
		Meteorology (Cont'd)		
Wind Direction	Weathermeasure W1034 (Site 020)	N/A	1°	N/A
Temperature	MRI 840 (Site 023)	-50°C	1°C	-50°C
	MRI 1071 (Site 042,056)	-35°C	1°C	-35°C
Delta Temperature	MRI 840	N/A	0.2°C	N/A
Relative Humidity	Weathermeasure H324-S	3%	1% (20-80%) 3% (at extremes)	3%
Barometric Pressure	Weathermeasure B 242	462 mm Hg	1 mm Hg	462 mm Hg
Solar Radiation	Eppley Spectral Pyranometer	0.05 $cal/cm^2/min$	0.05 $cal/cm^2/min$	0.05 $cal/cm^2/min$
Mixing Height Inversion Height Stability Type	AV 300A Acoustic Radar	30 m	10 m	30 m

*whichever is greater

1.3.4 AV Nomenclature for Components

Abbreviation (alphabetical order)	Component
BARP	Barometric Pressure
CH4	Methane
CO	Carbon Monoxide
DT2	Delta T#2 (Temperature at 60 m - Temperature at 10 m)
HC	Hydrocarbons (corrected for methane)
H2S	Hydrogen Sulfide
INV	Invension Height
MIX	Mixing Height
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOX	Oxides of Nitrogen
O3	Ozone
PART	Particulates (24 hour average)
RH1	Relative Humidity at level 1 (1 m/3 ft.)
SOLR	Solar Radiation (sky only)
SO2	Sulfur Dioxide
STB1	Stability Type at level 1 (50 m)
STB2	Stability Type at level 2 (200 m)
TEM2	Temperature at level 2 (10 m/30 ft.)
TEM3	Temperature at level 3 (30 m/100 ft.)
TEM4	Temperature at level 4 (60 m/200 ft.)
THC	Total Hydrocarbons
WD2	Wind Direction at level 2 (10 m/30 ft.)
WD3	Wind Direction at level 3 (30 m/100 ft.)
WD4	Wind Direction at level 4 (60 m/200 ft.)
WS2	Wind Speed at level 2 (10 m/30 ft.)
WS3	Wind Speed at level 3 (30 m/100 ft.)
WS4	Wind Speed at level 4 (60 m/200 ft.)

SECTION 2.0

REPORTS

```
DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                          C-B OIL SHALE PROJECT, COLORADO       ***********************
                                                                                *                     *
                                          SITE   20                             *     FINAL DATA      *
                                                                                *  AS OF 10/JUL/78    *
                                          APR, 1978                             *                     *
                                                                                ***********************
                                          AEROVIRONMENT INC.



                        DAY   WS1   WD1   MIX   STB1  INV   STB2

                          1     0     0     0     0     0     0
                          2     0     0     0     0     0     0
                          3     0     1     0     0     0     0
                          4     0     0     0     0     0     0
                          5     0     0     0     0     0     0
                          6     0     0     0     0     0     0
                          7     0     0     0     0     0     0
                          8     0     0    16    16    16    16
                          9     0     0    24    24    24    24
                         10     0     0    24    24    24    24
                         11     0     0    24    24    24    24
                         12     0     0    24    24    24    24
                         13     0     1    24    24    24    24
                         14     0     0    24    24    24    24
                         15     0     0    24    24    24    24
                         16     0     0    24    24    24    24
                         17     2     0    24    24    24    24
                         18     0     0    24    24    24    24
                         19     0     1    24    24    24    24
                         20     0     0    24    24    24    24
                         21     4     5    24    24    24    24
                         22     7     6    24    24    24    24
                         23     0     2    24    24    24    24
                         24     0     0     9     9     9     9
                         25     0     0     0     0     0     0
                         26     0     0     0     0     0     0
                         27     0     0     0     0     0     0
                         28     0     0     0     0     0     0
                         29     0     0     0     0     0     0
                         30     0     0     0     0     0     0
                         31  (  ) (  ) (  ) (  ) (  ) (  )

                         TT    13    16   385   385   385   385

                         %EFF  98    97    46    46    46    46

AQDTR  (05 APR 78)
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DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                              C-B OIL SHALE PROJECT, COLORADO        *********************
                                                                                     *                   *
                                              SITE   23                              *    FINAL DATA     *
                                                                                     *  AS OF 17/JUL/78  *
                                              APR, 1978                              *                   *
                                                                                     *********************
                                              AEROVIRONMENT INC.


                    DAY  PART RH1  SO2  TEM2 THC  WD2  WD3  WD4  WS2  WS3  WS4

                      1     0    0    0    0    0    0    0    0    0    0    0
                      2     0    0    0    0    0    0    0    0    0    0    0
                      3     0    0    0    0    0    5    1    0    7    0    0
                      4     0    0   11    0   11    0    0    0    0    0    0
                      5     0    0   10    0   10    0    0    0    0    0    0
                      6     0    0    0    9    0    9    9    9    9    9    9
                      7     0    0    0   15   18   14   14   14   14   14   14
                      8     0    0    0    0   24    0    0    0    0    0    0
                      9     0    0    0    0   24    0    0    0    0    0    0
                     10     0    0    0    0   24    0    0    0    0    0    0
                     11     0    0    0    0   15    0    0    0    0    0    0
                     12     0    0    0    0    6    0    0    0    0    0    0
                     13     0    0    0    0   24    0    0    0    0    0    0
                     14     0    0    0    0    9    0    1    0    0    0    0
                     15     0    0    0    0   19    0    0    0    0    0    0
                     16     0    0    0    0   24    1    0    0    0    1    0
                     17     0    0    0    0   23   10    8    0    0    6    0
                     18     0    0    0    0   24    0    0    0    0    0    0
                     19     0    0    0    0   15    0    0    0    0    0    0
                     20     0    0    0    0    0    0    0    0    0    0    0
                     21     0    0    0    0    0    6    0    0    0    0    0
                     22     0    0    0    0    0    8    0    0    0    0    0
                     23     0    0    0    0    0    0    0    0    0    0    0
                     24     1    0    0    0    0    0    0    0    0    0    0
                     25     0    0    0    0    0    0    0    0    0    0    0
                     26     0    0    0    0    0    0    0    0    0    0    0
                     27     0    0    0    0    2    0    0    0    0    0    0
                     28     0    0    0    0    0    0    0    0    0    0    0
                     29     0    0    0    0    0    0    0    0    0    0    0
                     30     0    0    0    0    0    0    0    0    0    0    0
                     31  [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]

                     TT     1    0   21   24  272   53   33   23   30   30   23

                    %EFF   90  100   97   96   62   92   95   96   95   95   96


AODTR  (05 APR 78)
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DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                         C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                              *                   *
                                         SITE   23                            *    FINAL DATA     *
                                                                              *  AS OF 11/JUL/78  *
                                         APR, 1978                            *                   *
                                                                              *********************
                                         AEROVIRONMENT INC.


                          DAY  BARP CH4   CO  DT2  H2S   NO  NOX   O3

                           1     0    0    0    0    0    0    0    0
                           2     0    0    0    0    0    0    0    0
                           3     0    0    0    0    0    0    0   11
                           4    11   11   11    0   11   11   11   24
                           5    10   10   10    0   10   10   10   10
                           6     0    0    0    9    0    0    0    0
                           7     0    0    0   14    0    0    0    0
                           8     0    0    0    0    0    0    0    0
                           9     0    0    0    0    0    0    0    0
                          10     0   10   10    0    0    0    0    0
                          11     0   15   15    0    0    0    0    0
                          12     0    0    0    0    0    0    0    0
                          13     0    0    0   15    0    0    0    0
                          14     0    0    0   24    0    0    0    0
                          15     0    0    0   24    0    0    0    0
                          16     0    0    0   24    0    0    0    0
                          17     0    0    0   24    0    0    0    0
                          18     0    0    0   24    0    0    0    0
                          19     0    0    0   24    0    0    0    0
                          20     0    0    0   24    0    0    0    0
                          21     0    0    0   24    0    0    0    0
                          22     0    0    0   24    0    0    0    0
                          23     0    0    0   24    0    0    0    0
                          24     0    0    0   24    0    0    0    0
                          25     0    0    3   24    0    0    0    0
                          26     0    0   24   24    0    0    0    0
                          27     0    0   24   24    0    0    0    0
                          28     0    0    8   24    0    0    0    0
                          29     0    0    0   24    0    0    0    0
                          30     0    0    0   24    0    0    0    0
                          31   [ ]  [ ]  [ ]  [ ]  [ ]  [ ]  [ ]  [ ]

                          TT    21   46  105  446   21   21   21   45

                          %EFF  97   93   85   38   97   97   97   93

AQQTR (05 APR 78)
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```
DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                      C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                           *                   *
                                      SITE    42                           *     FINAL DATA    *
                                                                           *  AS OF 10/JUL/78  *
                                      APR, 1978                            *                   *
                                                                           *********************
                                      AEROVIRONMENT INC.



                        DAY  WS1  WD1  TEM1


                          1   24   24   24
                          2   24   24   24
                          3   24   24   24
                          4   24   24   24
                          5   14   14   14
                          6    0    0    0
                          7    0    0    0
                          8    0    0    0
                          9    0    0    0
                         10    0    0    0
                         11    4    4    4
                         12   24   24   24
                         13   24   24   24
                         14   15   15   16
                         15    7    7    7
                         16   24   24   24
                         17   24   24   24
                         18   24   24   24
                         19   24   24   24
                         20   24   24   24
                         21   24   24   24
                         22   24   24   24
                         23   24   24   24
                         24   24   24   24
                         25   24   24   24
                         26   24   24   24
                         27   24   24   24
                         28   24   24   24
                         29   24   24   24
                         30   24   24   24
                         31  [  ] [  ] [  ]

                         TT  544  544  545

                       %EFF   24   24   24


AQDTH (05 APR 78)
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DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                        C-B OIL SHALE PROJECT, COLORADO        *********************
                                                                               *                   *
                                        SITE    56                             *     FINAL DATA    *
                                                                               *  AS OF 10/JUL/78  *
                                        APR, 1978                              *                   *
                                                                               *********************
                                        AEROVIRONMENT INC.


                              DAY  WS1  WD1  TEM1

                               1     0    0    0
                               2     0    0    0
                               3     1    1    0
                               4     0    0    0
                               5     0    0    0
                               6     0    0    0
                               7     0    0    0
                               8     0    0    0
                               9     0    0    0
                              10     0    0    0
                              11     0    0    0
                              12     0    0    0
                              13     0    0    0
                              14     0    0    0
                              15     0    0    0
                              16     0    0    0
                              17     0    4    0
                              18     0    0    0
                              19     0    0    0
                              20     0    0    0
                              21     0    5    0
                              22 ,   0    8    0
                              23     0    0    0
                              24     0    0    0
                              25     0    0    0
                              26     0    0    0
                              27     0    0    0
                              28     0    0    0
                              29     0    0    0
                              30     0    0    0
                              31   ( )  ( )  ( )

                              TT     1   18    0

                              %EFF  99   97  100

AQDTR. (05 APR 78)
```

STABILITY CLASS REPORT
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)

PAGE: 1

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*  AS OF 10/JUL/78   *
*                    *
**********************
```

CLOCK HOUR (LOCAL STANDARD TIMES)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)
2	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)
3	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)
4	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)
5	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)
6	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(PF)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)
8	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)
9	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)
10	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)
11	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)
12	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)
13	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(CA)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
14	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
15	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
16	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
17	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
18	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
19	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
20	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
21	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
22	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
23	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
24	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
25	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
26	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
27	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
28	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
29	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)
30	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)

* INDICATES STABILITY CLASS WITHOUT THE WIND SPEED VALUE

AQSCR (05 APR 78)

WIND SPEED: M/S

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STABILITY CLASS REPORT                                                                                  PAGE:  2
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                            C-8 OIL SHALE PROJECT, COLORADO      ***********************
                                                                                                 *                     *
                                                            SITE   23                            *     FINAL DATA      *
                                                                                                 *  AS OF 10/JUL/78    *
                                                            APR, 1978                            *                     *
                                                                                                 ***********************
                                                            AEROVIRONMENT INC.


                                           HOURLY WIND SPEED AND DIRECTION FOR
                                                  STABILITY CLASS  A
                                           CLOCK HOUR    (LOCAL STANDARD TIMES)


DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

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STABILITY CLASS REPORT                                                                                    PAGE:   3
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                     C-B OIL SHALE PROJECT, COLORADO          *********************
                                                                                              *                   *
                                                     SITE   23                                *    FINAL DATA     *
                                                                                              *  AS OF 10/JUL/78  *
                                                     APR, 1978                                *                   *
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                                                     AEROVIRONMENT INC.


                                       HOURLY WIND SPEED AND DIRECTION FOR
                                              STABILITY CLASS  A
                                       CLOCK HOUR    (LOCAL STANDARD TIMES)

DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

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STABILITY CLASS REPORT                                                                     PAGE!   4
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
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                                                   SITE   23                            *    FINAL DATA    *
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                                                   APR, 1978                            *                  *
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                                                   AEROVIRONMENT INC.


                                 HOURLY WIND SPEED AND DIRECTION FOR
                                         STABILITY CLASS  B
                                 CLOCK HOUR   (LOCAL STANDARD TIMES)

DAY  00  01  02  03  04  05  06  07  08  09  10  11  12  13  14  15  16  17  18  19  20  21  22  23

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AQSCR  (05 APR 78)                                                    WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                          PAGE:   5
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                   C-B OIL SHALE PROJECT, COLORADO          *********************
                                                                                            *                   *
                                                   SITE   23                                *     FINAL DATA    *
                                                                                            *  AS OF 10/JUL/78  *
                                                   APR, 1978                                *                   *
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                                                   AERVIRONMENT INC.


                                  HOURLY WIND SPEED AND DIRECTION FOR
                                           STABILITY CLASS  B
                                  CLOCK HOUR   (LOCAL STANDARD TIMES)


DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

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STABILITY CLASS REPORT                                                                   PAGE:   6
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                    C-B OIL SHALE PROJECT, COLORADO     *********************
                                                                                        *                   *
                                                    SITE   23                           *     FINAL DATA    *
                                                                                        *  AS OF 10/JUL/78  *
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                                                    AEROVIRONMENT INC.


                                        HOURLY WIND SPEED AND DIRECTION FOR
                                               STABILITY CLASS  C
                                        CLOCK HOUR   (LOCAL STANDARD TIMES)


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STABILITY CLASS REPORT                                                                        PAGE:   7
STABILITY DETERMINED FROM
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                                     HOURLY WIND SPEED AND DIRECTION FOR
                                             STABILITY CLASS  C
                                     CLOCK HOUR    (LOCAL STANDARD TIMES)

DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

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STABILITY CLASS REPORT                                                                               PAGE:   8
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                                C-B OIL SHALE PROJECT, COLORADO     **********************
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                                                                SITE   23                           *     FINAL DATA     *
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                                                                AEROVIRONMENT INC.


                                                 HOURLY WIND SPEED AND DIRECTION FOR
                                                         STABILITY CLASS  D
                                                 CLOCK HOUR    (LOCAL STANDARD TIMES)


DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

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STABILITY CLASS REPORT                                                                            PAGE:   9
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                          C-B OIL SHALE PROJECT, COLORADO         **********************
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                                                          SITE   23                               *     FINAL DATA     *
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                                                          AEROVIRONMENT INC.


                                          HOURLY WIND SPEED AND DIRECTION FOR
                                                STABILITY CLASS  D
                                          CLOCK HOUR   (LOCAL STANDARD TIMES)

DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

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  AQSCR  (05 APR 78)                                                                 WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                         PAGE:  11
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                    C-B OIL SHALE PROJECT, COLORADO        *********************
                                                                                           *                   *
                                                    SITE   23                              *    FINAL DATA     *
                                                                                           *  AS OF 10/JUL/78  *
                                                    APR, 1978                              *                   *
                                                                                           *********************
                                                    AEROVIRONMENT INC.


                                 HOURLY WIND SPEED AND DIRECTION FOR
                                         STABILITY CLASS  E
                                 CLOCK HOUR   (LOCAL STANDARD TIMES)


DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

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AQSCR  (05 APR 78)                                                          WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                                    PAGE: 12
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                                   C-B OIL SHALE PROJECT, COLORADO       **********************
                                                                                                         *                    *
                                                                   SITE  23                              *     FINAL DATA     *
                                                                                                         *  AS OF 10/JUL/78   *
                                                                   APR, 1978                             *                    *
                                                                                                         **********************
                                                                   AEROVIRONMENT INC.


                                              HOURLY WIND SPEED AND DIRECTION FOR
                                                     STABILITY CLASS  F
                                              CLOCK HOUR    (LOCAL STANDARD TIMES)

DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

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AOSCR  (05 APR 78)                                                                        WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                       PAGE: 13
STABILITY DETERMINED FROM
DELTA T #2(TEMP @60M - TEMP @10M)
                                                   C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                        *                    *
                                                   SITE   23                            *     FINAL DATA     *
                                                                                        *  AS OF 10/JUL/78   *
                                                   APR, 1978                            *                    *
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                                                   AEROVIRONMENT INC.


                             HOURLY WIND SPEED AND DIRECTION FOR
                                     STABILITY CLASS  F
                             CLOCK HOUR   (LOCAL STANDARD TIMES)

DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

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AQSCR  (05 APR 78)                                                            WIND SPEED: M/S
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     FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE
                                                                                      PAGE:   1
                                                         C-B OIL SHALE PROJECT, COLORADO     *********************
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                                                         SITE   20                           *    FINAL DATA     *
                                                                                             *  AS OF 21/AUG/78  *
                                                         APR, 1978                           *                   *
                                                                                             *********************
                                                         AEROVIRONMENT INC.


COMPONENT                   AVE TIME  RANK  DAY  HOUR(BEG)  VALUE    UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                    LST                           10M                  10M

PARTICULATES (24 HR. AVG)
                             24 HR      1    24     00      28.3  UGM/ M**3        2       M/S         170         DEG
                                        2     9     00      27.2  UGM/ M**3        2       M/S         200         DEG
                                        3    12     00      23.4  UGM/ M**3        3       M/S         200         DEG
                                        4    20     00      15.7  UGM/ M**3        4       M/S         145         DEG
                                        5    18     00      13.0  UGM/ M**3        3       M/S         185         DEG
```

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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                          PAGE:   1

                                                     C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                          *                   *
                                                     SITE   23                            *    FINAL DATA     *
                                                                                          *  AS OF 11/JUL/78  *
                                                     APR, 1978                            *                   *
                                                                                          *********************
                                                     AEROVIRONMENT INC.


COMPONENT                    AVE TIME  RANK  DAY  HOUR(BEG)  VALUE    UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                     LST                           10M                 10M

CARBON MONOXIDE
                              01 HR      1    16     16         .8  MGM/ M**3         6       M/S         230        DEG
                                         2     9     14         .7  MGM/ M**3         6       M/S         355        DEG
                                         3    16     18         .7  MGM/ M**3         4       M/S         285        DEG
                                         4    22     07         .7  MGM/ M**3         3       M/S        (IM)        DEG
                                         5    22     10         .7  MGM/ M**3         4       M/S         300        DEG
                              08 HR      1    23     22         .6  MGM/ M**3         1       M/S         205        DEG
                                         2    22     05         .6  MGM/ M**3         3       M/S        (IM)        DEG
                                         3    23     02         .6  MGM/ M**3         2       M/S         180        DEG
                                         4    23     10         .6  MGM/ M**3         4       M/S         250        DEG
                                         5    24     07         .6  MGM/ M**3         2       M/S         235        DEG
PARTICULATES (24 HR. AVG)
                              24 HR      1     9     00       33.0  UGM/ M**3         3       M/S         200        DEG
                                         2    27     00       31.2  UGM/ M**3         3       M/S         235        DEG
                                         3    20     00       24.3  UGM/ M**3         4       M/S         180        DEG
                                         4    12     00       23.4  UGM/ M**3         2       M/S         270        DEG
                                         5    18     00       13.0  UGM/ M**3         2       M/S         250        DEG
HYDROCARBONS (CORRECTED FOR CH4)
                              03 HR      1    30     06       1092  UGM/ M**3         4       M/S         190        DEG
                                         2    25     06       1070  UGM/ M**3         1       M/S         120        DEG
                                         3    29     06       1048  UGM/ M**3         1       M/S         270        DEG
                                         4     4     06       1005  UGM/ M**3         3       M/S         145        DEG
                                         5    24     06        961  UGM/ M**3         1       M/S        (IM)        DEG


 AQISA  (22 APR 78)
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                          PAGE:   2
                                                            C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                                 *                   *
                                                            SITE   23                            *     FINAL DATA    *
                                                                                                 *  AS OF 19/JUL/78  *
                                                            APR, 1978                            *                   *
                                                                                                 *********************
                                                            AEROVIRONMENT INC.


COMPONENT                   AVE TIME  RANK  DAY  HOUR(HEG)  VALUE    UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                    LST                           10M                  10M

SULFUR DIOXIDE
                             03 HR      1     6     10        20   UGM/ M**3         6      M/S          185       DEG
                                        2    15     00        15   UGM/ M**3         3      M/S          210       DEG
                                        3    17     08        15   UGM/ M**3         5      M/S         (IM)       DEG
                                        4     6     00        15   UGM/ M**3         1      M/S          150       DEG
                                        5     6     04        15   UGM/ M**3         5      M/S          150       DEG
                             24 HR      1    13     00        10   UGM/ M**3         3      M/S          180       DEG
                                        2     5     15         5   UGM/ M**3         4      M/S          190       DEG
                                        3    14     18         5   UGM/ M**3         5      M/S          195       DEG
                                        4    16     11         5   UGM/ M**3         4      M/S         (IM)       DEG
                                        5    29     13         5   UGM/ M**3         3      M/S          160       DEG
OZONE
                             01 HR      1    21     07       140   UGM/ M**3         7      M/S          190       DEG
                                        2    21     08       140   UGM/ M**3         8      M/S          215       DEG
                                        3    21     09       130   UGM/ M**3         9      M/S          230       DEG
                                        4     6     14       120   UGM/ M**3         5      M/S          210       DEG
                                        5    21     10       120   UGM/ M**3         8      M/S          215       DEG


 ADISA  (22 APR 78)
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                   PAGE:   1

                                                 C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                      *                    *
                                                 SITE   42                            *     FINAL DATA     *
                                                                                      *  AS OF 21/AUG/78   *
                                                 APR, 1978                            *                    *
                                                                                      **********************
                                                 AEROVIRONMENT INC.


COMPONENT                      AVE TIME  RANK  DAY  HOUR(BEG)  VALUE     UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                       LST                            10M                  10M

PARTICULATES (24 HR. AVG)
                               24 HR       1    11     00       25.2  UGM/ M**3      (IM)      M/S        (IM)       DEG
                                           2    10     00       21.0  UGM/ M**3.        3      M/S         195       DEG
                                           3    15     00       18.4  UGM/ M**3      (IM)      M/S        (IM)       DEG
                                           4    18     00        5.8  UGM/ M**3      (IM)      M/S        (IM)       DEG
                                           5    30     00        2.9  UGM/ M**3      (IM)      M/S        (IM)       DEG
```

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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                  PAGE:   1

                                                      C-B OIL SHALE PROJECT, COLORADO       **********************
                                                                                            *                    *
                                                      SITE   56                             *     FINAL DATA     *
                                                                                            *  AS OF 21/AUG/78   *
                                                      APR, 1978                             *                    *
                                                                                            **********************
                                                      AEROVIRONMENT INC.



COMPONENT                     AVE TIME  RANK  DAY  HOUR(BEG)  VALUE    UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                      LST                            10M                 10M

PARTICULATES (24 HR. AVG)
                               24 HR      1    24     00       13.3  UGM/ M**3         2       M/S          175       DEG
                                          2    12     00       12.9  UGM/ M**3         2       M/S          220       DEG
                                          3    27     00       12.6  UGM/ M**3         2       M/S          180       DEG
                                          4    15     00       10.8  UGM/ M**3         3       M/S          150       DEG
                                          5    20     00        9.4  UGM/ M**3         3       M/S          145       DEG
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DAILY AVERAGES SUMMARY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 20

APR, 1978

AEROVIRONMENT INC.

****
FINAL DATA
AS OF 11/JUL/78
****

DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
(75% FOR TEMP AND REL HUMIDITY)

DAY	WS1 M/S 10M	WD1 DEG 10M	MIX M	STB1 0=STI=UN 50M	INV M	STB2 0=STI=UN 200M
1	3	120	40	0	200	1
2	3	130	30	0	260	0
3	2	180	30	0	250	1
4	4	140	30	0	160	1
5	2	175	30	1	120	1
6	3	140	30	1	130	1
7	5	140	30	1	120	1
8	2	170	*	*	*	*
9	2	200	*	*	*	*
10	2	190	*	*	*	*
11	3	180	*	*	*	*
12	3	200	*	*	*	*
13	3	160	*	*	*	*
14	3	130	*	*	*	*
15	3	140	*	*	*	*
16	4	175	*	*	*	*
17	4	245	*	*	*	*
18	3	185	*	*	*	*
19	2	155	*	*	*	*
20	3	145	*	*	*	*
21	4	155	*	*	*	*
22	3	180	*	*	*	*
23	4	185	*	*	*	*
24	2	170	*	1	*	1
25	3	165	30	0	160	1
26	4	150	30	1	130	1
27	3	180	40	0	290	1
28	3	195	30	0	190	1
29	2	140	30	0	180	1
30	3	155	30	0	300	1
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	3	165	*	*	*	*

* INDICATES NOT ENOUGH DATA FOR AVERAGE

AQMAR (04 MAY 78)

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DAILY AVERAGES SUMMARY REPORT

                              C-H OIL SHALE PROJECT, COLORADO      *********************
                                                                   *                   *
                              SITE   23                            *     FINAL DATA    *
                                                                   *  AS OF 17/JUL/78  *
                              APR, 1978                            *                   *
                                                                   *********************
                              AEROVIRONMENT INC.


           DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                          (75% FOR TEMP AND REL HUMIDITY)

            DAY    TEM2      RH1       BARP     DT2
                   DEGC      PER      MM  HG    DEGC
                    10M        1M

              1       3       85       585        *
              2       2       79       586        *
              3       2       76       591        *
              4       7       46       591        *
              5       4       62       589        *
              6       *       40       588        *
              7       *       30       586        *
              8       9       42       586        *
              9       3       68       587        *
             10       3       55       590        *
             11       7       54       589        *
             12       6       41       589        *
             13       5       61       588        *
             14       8       50       588        *
             15       8       47       588        *
             16       5       56       585        *
             17      -1       51       589        *
             18       2       41       593        *
             19       5       36       592        *
             20       9       30       587        *
             21       3       57       585        *
             22       0       44       590        *
             23       6       37       592        *
             24       9       42       593        *
             25      12       34       590        *
             26      13       38       586        *
             27       5       69       587        *
             28       7       58       589        *
             29       5       78       586        *
             30       5       72       584        *
             31     [ ]      [ ]      [ ]       [ ]

             AV       5       53       588        *


      * INDICATES NOT ENOUGH DATA FOR AVERAGE
ADMAR  [04 MAY 78]
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DAILY AVERAGES SUMMARY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

****
*   *
*   FINAL DATA   *
* AS OF 11/JUL/78   *
*   *
****

DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
(75% FOR TEMP AND REL HUMIDITY)

DAY	WS2 M/S 10M	WD2 DEG 10M	WS3 M/S 30M	WD3 DEG 30M	WS4 M/S 60M	WD4 DEG 60M
1	3	180	4	170	4	180
2	4	190	5	190	6	195
3	3	230	3	230	3	235
4	4	165	5	160	6	170
5	2	220	3	245	4	240
6	5	170	6	170	7	180
7	*	*	*	*	*	*
8	3	180	3	175	4	180
9	3	200	4	295	4	255
10	2	260	3	270	3	290
11	4	210	5	210	6	220
12	2	270	3	260	3	255
13	3	180	4	165	4	170
14	4	200	5	190	4	190
15	5	200	6	190	6	195
16	6	205	7	200	7	215
17	4	310	6	295	5	290
18	2	250	3	270	3	280
19	2	215	2	215	2	215
20	4	180	5	165	5	185
21	4	215	5	200	6	210
22	3	260	4	250	4	260
23	3	220	3	215	4	220
24	2	205	2	205	2	230
25	4	165	5	155	5	165
26	5	200	6	195	7	200
27	3	235	4	235	4	245
28	3	255	3	255	4	260
29	2	210	2	230	2	220
30	3	190	4	200	4	190
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	3	215	4	215	4	220

* INDICATES NOT ENOUGH DATA FOR AVERAGE

AQMAR (04 MAY 78)

DAILY AVERAGES SUMMARY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 17/JUL/78

DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
(75% FOR TEMP AND REL HUMIDITY)

DAY	NOX UGM/M**3	NO2 UGM/M**3	NO UGM/M**3	SO2 UGM/M**3	H2S UGM/M**3	O3 UGM/M**3	THC UGM/M**3	HC UGM/M**3	CH4 UGM/M**3	CO MGM/M**3
1	0	0	0	0	0	65	1540	663	876	.3
2	0	0	0	0	0	82	1632	685	947	.3
3	0	0	0	0	0	76	1515	601	914	.4
4	0	0	0	0	0	*	1598	862	736	.4
5	0	0	3	0	0	96	1245	393	852	.3
6	0	0	3	7	6	103	1296	576	726	.4
7	0	0	2	1	2	96	*	*	678	.3
8	0	0	1	0	0	92	*	*	914	.4
9	0	0	1	0	0	76	*	*	1015	.4
10	0	0	1	0	0	78	*	*	786	.4
11	0	0	2	0	1	76	*	*	*	*
12	0	0	4	0	2	82	1481	521	947	.4
13	0	0	4	9	1	78	*	*	912	.4
14	0	0	3	4	1	72	1136	271	863	.3
15	0	0	3	6	1	81	*	*	855	.3
16	0	0	2	5	3	81	*	*	852	.4
17	0	0	3	3	2	86	*	*	911	.4
18	0	0	4	1	0	87	*	*	909	.3
19	0	0	7	2	1	89	*	*	942	.4
20	0	0	5	0	0	92	1545	601	944	.3
21	0	0	6	0	0	100	1350	425	923	.5
22	0	0	8	3	2	91	1455	489	966	.6
23	0	0	9	5	3	91	1755	748	1007	.6
24	0	0	8	5	2	81	1583	623	961	.5
25	0	0	4	0	0	89	1686	781	906	.3
26	0	0	4	0	0	81	1559	666	893	*
27	0	0	5	1	0	79	1578	673	909	*
28	1	0	7	3	0	65	1493	599	932	.4
29	1	0	7	4	0	61	1807	868	939	.4
30	0	0	7	6	0	82	1804	876	928	.4
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	0	0	4	2	1	83	1529	627	895	.4

* INDICATES NOT ENOUGH DATA FOR AVERAGE

ADMAR (04 MAY 78)

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DAILY AVERAGES SUMMARY REPORT

                                        C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                             *                    *
                                        SITE    42                           *     FINAL DATA     *
                                                                             *  AS OF 11/JUL/78   *
                                        APR, 1978                            *                    *
                                                                             **********************
                                        AEROVIRONMENT INC.


                       DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                      (75% FOR TEMP AND REL HUMIDITY)

                            DAY    WS1       WD1       TEM1
                                  M/S       DEG       DEGC
                                     10M       10M       10M

                              1        *         *         *
                              2        *         *         *
                              3        *         *         *
                              4        *         *         *
                              5        *         *         *
                              6        5       140         6
                              7        6       150         9
                              8        3       140         7
                              9        3       215         1
                             10        3       195         0
                             11        5       175         6
                             12        *         *         *
                             13        *         *         *
                             14        *         *         *
                             15        5       195         *
                             16        *         *         *
                             17        *         *         *
                             18        *         *         *
                             19        *         *         *
                             20        *         *         *
                             21        *         *         *
                             22        *         *         *
                             23        *         *         *
                             24        *         *         *
                             25        *         *         *
                             26        *         *         *
                             27        *         *         *
                             28        *         *         *
                             29        *         *         *
                             30        *         *         *
                             31    [   ]     [   ]     [   ]

                             AV        *         *         *

     * INDICATES NOT ENOUGH DATA FOR AVERAGE
AQMAR  (04 MAY 78)
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DAILY AVERAGES SUMMARY REPORT

                                                       C-B OIL SHALE PROJECT, COLORADO     **********************
                                                                                           *                    *
                                                       SITE    56                          *     FINAL DATA     *
                                                                                           *  AS OF 11/JUL/78   *
                                                       APR, 1978                           *                    *
                                                                                           **********************
                                                       AEROVIRONMENT INC.


                                DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                               (75% FOR TEMP AND REL HUMIDITY)

                                   DAY     WS1        WD1        TEM1
                                           M/S        DEG        DEGC
                                             10M        10M        10M

                                     1       2        120          2
                                     2       2        135          1
                                     3       2        170          0
                                     4       3        125          3
                                     5       2        170          2
                                     6       2        135          4
                                     7       3        130          7
                                     8       2        135          7
                                     9       3        210          1
                                    10       2        205         -1
                                    11       3        150          5
                                    12       2        220          3
                                    13       2        175          4
                                    14       2        160          7
                                    15       3        150          7
                                    16       3        180          4
                                    17       3        255         -2
                                    18       2        195         -1
                                    19       2        165          3
                                    20       3        145          6
                                    21       3        175          0
                                    22       2        235         -1
                                    23       2        185          3
                                    24       2        175          7
                                    25       3        165          9
                                    26       3        170         12
                                    27       2        180          3
                                    28       2        210          5
                                    29       2        145          3
                                    30       2        170          3
                                    31    [  ]      [  ]       [  ]

                                    AV       2        170          4

       * INDICATES NOT ENOUGH DATA FOR AVERAGE
ADMAR  (04 MAY 78)
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```
VECTORIAL AVERAGE WIND SPEED AND DIRECTION
                       (M/S)      (DEGREES)

                                          C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                               *                   *
                                          SITE   20                            *     FINAL DATA    *
                                                                               *  AS OF 10/JUL/78  *
                                          APR, 1978                            *                   *
                                                                               *********************
                                          AEROVIRONMENT INC.


                        DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)


                                    DAY  WS1  WD1
                                         10M  10M


                                      1    2  100
                                      2    2  140
                                      3    0  200
                                      4    3  135
                                      5    0  315
                                      6    3  145
                                      7    4  145
                                      8    1  155
                                      9    2  330
                                     10    1  305
                                     11    2  180
                                     12    1  300
                                     13    2  175
                                     14    2  155
                                     15    2  160
                                     16    3  170
                                     17    4  300
                                     18    1  325
                                     19    0   65
                                     20    3  155
                                     21    1  205
                                     22    *    *
                                     23    1  255
                                     24    1  155
                                     25    2  150
                                     26    3  170
                                     27    1  265
                                     28    2  240
                                     29    0   30
                                     30    1  115
                                     31  (  ) (  )

                                     AV    1  160

    * INDICATES NOT ENOUGH DATA FOR AVERAGES
AUMVR  [04 MAY 78]
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VECTORIAL AVERAGE WIND SPEED AND DIRECTION
(M/S) (DEGREES)

C-B OIL SHALE PROJECT, COLORADO

SITE 23

APR, 1978

AEROVIRONMENT INC.

```
*********************
*                   *
*     FINAL DATA    *
*  AS OF 10/JUL/78  *
*                   *
*********************
```

DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)

DAY	WS2 10M	WD2 10M	WS3 30M	WD3 30M	WS4 60M	WD4 60M
1	2	180	3	175	4	180
2	4	190	5	190	6	195
3	2	210	2	205	3	210
4	4	175	5	170	5	175
5	1	240	2	235	2	240
6	5	180	6	175	6	185
7	*	*	*	*	*	*
8	1	210	1	200	1	215
9	3	355	4	345	4	345
10	1	305	2	290	2	300
11	4	220	5	210	5	215
12	2	285	2	280	2	295
13	2	200	2	190	2	200
14	3	200	4	195	4	200
15	5	200	6	190	6	195
16	5	200	5	190	6	200
17	5	310	5	300	5	295
18	2	310	2	295	2	295
19	1	325	1	335	1	325
20	3	200	4	190	3	205
21	3	230	3	225	3	230
22	3	260	3	250	4	255
23	2	235	3	230	3	240
24	1	275	1	295	1	270
25	3	190	4	175	4	185
26	5	200	6	190	6	195
27	3	240	4	235	4	240
28	2	270	3	260	3	265
29	0	315	0	305	0	280
30	2	210	2	195	2	200
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	2	210	3	205	3	215

* INDICATES NOT ENOUGH DATA FOR AVERAGES

AQMVR (04 MAY 78)

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VECTORIAL AVERAGE WIND SPEED AND DIRECTION
                       (M/S)      (DEGREES)

                                        C-B OIL SHALE PROJECT, COLORADO        *********************
                                                                               *                   *
                                        SITE     42                            *     FINAL DATA    *
                                                                               *  AS OF 10/JUL/78  *
                                        APR, 1978                              *                   *
                                                                               *********************
                                        AEROVIRONMENT INC.


                             DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)


                                     DAY  WS1  WD1
                                          10M  10M


                                       1    *    *
                                       2    *    *
                                       3    *    *
                                       4    *    *
                                       5    *    *
                                       6    4  160
                                       7    5  165
                                       8    1  185
                                       9    2  340
                                      10    1  305
                                      11    4  205
                                      12    *    *
                                      13    *    *
                                      14    *    *
                                      15    5  205
                                      16    *    *
                                      17    *    *
                                      18    *    *
                                      19    *    *
                                      20    *    *
                                      21    *    *
                                      22    *    *
                                      23    *    *
                                      24    *    *
                                      25    *    *
                                      26    *    *
                                      27    *    *
                                      28    *    *
                                      29    *    *
                                      30    *    *
                                      31  (  ) (  )

                                      AV    *    *

          * INDICATES NOT ENOUGH DATA FOR AVERAGES
AUMVR  (04 MAY 78)
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VECTORIAL AVERAGE WIND SPEED AND DIRECTION
                      (M/S)      (DEGREES)

                                      C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                           *                   *
                                      SITE    56                           *    FINAL DATA     *
                                                                           *  AS OF 10/JUL/78  *
                                      APR, 1978                            *                   *
                                                                           *********************
                                      AERОVIRONMENT INC.


                    DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)


                              DAY   WS1   WD1
                                    10M   10M


                                1     2   110
                                2     2   140
                                3     1   155
                                4     2   130
                                5     0   150
                                6     2   140
                                7     2   135
                                8     1   140
                                9     2   315
                               10     1   320
                               11     2   160
                               12     1   305
                               13     2   180
                               14     2   170
                               15     3   160
                               16     2   175
                               17     2   300
                               18     1   325
                               19     0   170
                               20     2   155
                               21     1   180
                               22     2   250
                               23     1   235
                               24     1   165
                               25     2   160
                               26     3   175
                               27     1   195
                               28     1   310
                               29     0   135
                               30     0   200
                               31   [   ] [   ]

                               AV     1   165


        * INDICATES NOT ENOUGH DATA FOR AVERAGES
AQMVR   (04 MAY 78)
```

Final Submission

AIR QUALITY DATA
PROTOTYPE OIL SHALE LEASE TRACT C-b

Volume I

May 1978 Data

Submitted August 9, 1978

AeroVironment Inc.
145 Vista Avenue
Pasadena, California 91107

PREFACE

This volume is the final submission acquired during the air quality/ meteorology portions of the monitoring program for oil shale tract C-b. The period covered runs from 1 May through 31 May 1978.

This report is divided into two volumes. Volume I contains all of the basic data (hourly averages). Volume II contains all of the computer analysis reports.

TABLE OF CONTENTS

SECTION 1.0 - General

1.1 Introduction
1.2 Description of Instrument Systems

  1.2.1 Air Quality Instrumentation
  1.2.2 Air Quality Equipment Calibration Procedure
  1.2.3 Data Acquisition System
  1.2.4 Meteorological Instruments

1.3 Data Description

  1.3.1 Description of Data Tables
  1.3.2 Data Acceptance Algorithm
  1.3.3 Data Precision and Lower Detection Limit
  1.3.4 Data Listing

1.4 Descriptive Regional Meteorological Summary

SECTION 2.0 - Meteorology

2.1 Hourly Average Data Tabulations for All Sites in Order by Site Number

  2.1.1 Wind Speed, (WS2-4), 10 m, 30 m, 60 m
  2.1.2 Wind Direction (WD2-4), 10 m, 30 m, 60 m
  2.1.3 Temperature (T2-4), 10 m, 30 m, 60 m
  2.1.4 Lapse Rate (Delta T, DT2) 60 m-10 m
  2.1.5 Relative Humidity (RH1), 10 m
  2.1.6 Barometric Pressure (BARP)
  2.1.7 Solar Radiation (SOLR)
  2.1.8 Mixing Height (MIX)
  2.1.9 Inversion Height (INV)
  2.1.10 Stability Type (STB1, 2) 50 m, 200 m

2.2 Miscellaneous Data

  2.2.1 Double Theodolite (Wind Speed, Wind Direction, and Temperature versus Altitude)

SECTION 3.0 - Air Quality

3.1 Hourly Average Data Tabulations for All Sites in Order by Site Number

  3.1.1 Hydrogen Sulfide (H_2S)
  3.1.2 Sulfur Dioxide (SO_2)
  3.1.3 Total Hydrocarbons (THC), expressed as $\mu g/m^3$ of CH_4

3.1.4 Methane (CH_4)
3.1.5 Hydrocarbons (methane-reduced) ($HC = THC - CH_4$), expressed as $\mu g/m^3$ of CH_4
3.1.6 Carbon Monoxide (CO)
3.1.7 Nitrogen Oxides (NO_x), expressed as $\mu g/m^3$ of NO_2
3.1.8 Nitric Oxide, NO
3.1.9 Nitrogen Dioxide (NO_2)
3.1.10 Ozone (O_3)

3.2 Miscellaneous Data

3.2.1 High Volume Sampler, Suspended Particulates

Not all sites measure all of these parameters.

SECTION 1.0

GENERAL

1.0 GENERAL

1.1 Introduction

AeroVironment Inc. is performing an air quality and meteorological measurement program on the C-b shale oil tract for C-b Shale Oil Venture. Various parameters of air quality and meteorological data are collected at a network of sites. A listing of data collected during this month is contained in Section 1.3.

1.2 Description of Instrument Systems

1.2.1 Air Quality Instrumentation

The ambient air sample is drawn in through a glass cane and manifold supplied by the Ace Glass Company. The system has a 25 mm diameter, through which an air flow is provided by an air pump rated at 60 cfm. The manifold has sampling ports to which 1/4" Teflon lines are connected to the air quality instruments. All joints in the sampling system are secured by O-ring compression fittings. The following are the air quality instruments used:

- Oxides of Nitrogen

Oxides of nitrogen are measured by use of a Monitor Labs Model 8440E analyzer. Operating on the chemiluminescent principle, this dual-channel analyzer continuously monitored both NO_x and NO. The NO_2 value is calculated by the off-site computer by subtracting the NO value from the NO_x value. Designated by the EPA as a reference instrument, it has a lower detection limit of 2 parts per billion (ppb) and a linearity of ± 1%.

- Sulfur Dioxide

Sulfur dioxide is continuously measured with a Meloy Model SA185-2A sulfur analyzer equipped with a Meloy Model H_2S-1 hydrogen sulfide

scrubber. This instrument utilizes the principle of flame photometric detection (FPD) for operation. It is designated by EPA as an equivalent instrument. The instrument has a lower detection limit of 5 ppb and a linearity of ± 1%.

- Hydrogen Sulfide

Hydrogen sulfide is monitored continuously by using a Meloy Model SA185-2 equipped with a Meloy Model SO_x-1 sulfur dioxide scrubber. It also utilizes the FPD principle, and its lower detection limit is 5 ppb and linearity ± 1%.

- Ozone

Ozone is measured continuously by using a Meloy Model OA350 analyzer. Based on the chemiluminescent principle, it has a lower detection limit of 1 ppb and a linearity of ± 1%.

- Hydrocarbons and Carbon Monoxide

Total hydrocarbons, methane, and carbon monoxide are monitored by use of a Bendix Model 8200 analyzer. This instrument utilizes the gas chromatography-flame ionization detection principle, and measures each parameter once every five minutes. The non-methane hydrocarbon value is obtained by subtracting the methane value from the total hydrocarbon value. This instrument has a lower detection limit of 100 ppb for all three components.

- Total Suspended Particulates

A General Metal Works Model 2000 high volume sampler and glass fiber filter paper are employed to collect the ambient air total suspended particulates. The high volume sampler is turned on and off by a timer, once every three days, from midnight to midnight. Thus, a 24-hour integrated sample is collected.

The glass fiber filter paper is conditioned in a humidity controlled chamber for at least 24 hours before it is weighed. This procedure applies to both before and after it is exposed to the ambient air. The weighing is carried out by using a Torbal Model EA-1-AP balance.

A Dickon recorder is used to record the high volume sampling flowrate throughout the 24-hour sampling period.

1.2.2 Air Quality Equipment Calibration Procedures

- Daily Zero and Span Check

A Meloy Model RAD-1 calibration unit is used to perform the daily zero and span check on the NO/NO_x, SO_2, and H_2S analyzers. This instrument provides a zero air supply, SO_2 span gas from an SO_2 permeation tube, and NO span gas obtained by precisely diluting bottled NO span gas. The zero and span checks of all instruments are manually performed once a day. Each instrument is first switched to zero and the zero value is recorded on the multipoint chart recorders. After a stable zero signal has been obtained, a span gas is supplied to each channel until a stable span value has been reached. This value is recorded on the multipoint chart recorders. Both the zero and span values should be within the tolerance limit specified; otherwise, the analyzer is recalibrated. The instruments are then returned to the monitor mode.

The bottled NO span gas used for this purpose was obtained from Precision Gas Products. The SO_2 permeation tubes were manufactured by Metronics Associates, Inc.

The Model OA350 ozone analyzer has its own calibration system, which provides a zero check and a span check. The zero and span check is also done manually once a day.

The Model 8200 total hydrocarbon, methane, and carbon monoxide analyzer is calibrated with undiluted span gas obtained from Scott-Merrin.

This span gas contains methane and carbon monoxide in air; the methane being used to calibrate both the total hydrocarbon channel and the methane channel. The Model 8200 is zeroed with air from a Bendix Model 8834 zero air unit. In addition, the instrument is electronically re-zeroed at the start of every five-minute cycle.

- Multi-Point Calibration

Monthly multi-point calibrations of all air quality instruments are performed. The purpose of the monthly calibration is two-fold: 1) to check the instrument linearity, and 2) to assign the values of the on-site calibration sources so that they are NBS traceable.

The air quality instruments for SO_2, H_2S, O_3, and NO/NO_x are dynamically calibrated by use of a Monitor Labs Model 8500 Dynamic Calibration System. This calibrator utilizes the permeation principle for SO_2 and H_2S, ozonation of air for ozone, and dilution of concentrated NO to ambient level NO, and can perform gas phase titration of NO and O_3 for NO_2 calibrations. It is capable of producing stable concentrations for the purpose of calibration of the instruments. For the THC/CH_4/CO instruments, three cylinders of gases containing approximately 0, 4, and 8 ppm of CH_4 and CO are used to calibrate the analyzers.

The calibrator's SO_2 permeation tube output is calibrated quarterly by using the EPA-prescribed pararosaniline method (Federal Register, Vol. 36, No. 84, Part II, April 30, 1971); H_2S output by the cadmium hydroxide stractan method (Intersociety Committee, American Public Health Association, Washington, D.C., 1972); and O_3 output by the EPA-prescribed 1% neutral buffered potassium iodide (NBKI) method (Federal Register, ibid). The concentrated NO cylinder used (~ 100 ppm) is NBS traceable, and the traceability is maintained by re-analyzing the cylinder once every six months by using an NBS cylinder. The dilution system of the calibrator is checked once every three months by using an NBS traceable test meter. The NO dilution output from the calibrator is further calibrated quarterly by use of the Saltzman method (Intersocity Committee, ibid).

Cylinders used to calibrate THC/CH_4/CO instruments are NBS traceable. The traceability is maintained by re-analyzing the cylinders once every six months by using an NBS cylinder.

The high volume sampler is calibrated monthly by use of a set of resistance plates which, in turn, is calibrated by using an NBS traceable Roots Meter once a year. The balance used for weighing glass fiber filters is calibrated quarterly by using a set of NBS traceable weights.

1.2.3 Data Acquisition System

Esterline Angus Model E1124E multipoint chart recorders are used as primary recording means to monitor data. The EA chart recorder logs data at 2-1/2-minute intervals. The data reflects the real time value at that instant.

1.2.4 Meteorological Instruments

- Site 023

The meteorological tower itself is a 60-meter Rohn Model 80 Guyed Tower, designed for 40 pounds per square foot wind load with 1/2" of radial ice per EIA Standard RS-222-B, to support four levels of meteorological equipment. The material consists of tower sections with a tapered base, three retractable booms 12 feet long, three outside work platforms, an inside ladder for climbing, two base ground kits, and one anchor ground kit. The cable-type Safety Climbing Device consists of a cable and attachment mechanisms with a locking sleeve and safety belt. The tower is lighted and painted according to FAA specification.

All instrumentation, except at the ground level, is mounted at the end of 12-foot retractable booms. These booms are 3-inch box beams which are on rollers and can be retracted to the instrument platforms for instrument maintenance.

The tower has instrumentation at three levels: 10 m, 30 m, and 60 m. There were wind speed and direction sensors at all three levels, and temperature, at the 10 m and 60 m levels. Relative humidity, solar radiation and barometric pressure sensors are at the ground level. Temperature difference thermistors and their associated circuitry took lapse rate measurements for the 10 m to 60 m layer.

Wind Speed and Direction

The wind direction and speed apparatus used at each measurement level of the tower is the Model 1074-2 wind sensor by Meteorological Research, Inc. (MRI). This sensor has a 540° potentiometer for wind direction and a light chopper for wind speed. This sensor is rugged, with an all-weather cup and damped vane assembly. The wind sensors on the tower have been specially treated with a black paint which will promote warming of the exposed surfaces of the sensor and thereby reduce ice and snow accumulations on the moving parts of the apparatus. The specifications on the Model 1074-2 are as follows:

Wind Speed

- Starting Threshold: 0.75 mph.
- Response Distance: 18 feet (63% recovery)
- Flow Coefficient: 7.9 feet/Revolution
- Precision: ± 0.4 mph or 1% (whichever is greater)

Wind Direction

- Starting Threshold: 0.75 mph
- Delay Distance: 4 feet (50% recovery)
- Damping Ratio: 0.5 to 0.6
- Precision (540° system): ± 1%
- Range: 0° to 540°

Temperature

The temperature sensors are mounted within a power-aspirated radiation shield at each tower level. The sensors are of the Model 840 by MRI. The aspirated shielded housing is designed to provide maximum radiation protection to the sensor. The temperature sensor provides a linear resistance change with an air temperature change. The specifications on the sensing elements are as follows:

- Precision: ± 0.1°C
- Range: -30°C to +50°C

Delta Temperature

Measurements of temperature differences (ΔT) are taken for the 10 m to 60 m layer by using the MRI Model 840 systems. Both of the ΔT thermistors are mounted within power-aspirated radiation shields. The specifications on the ΔT equipment are as follows:

- Precision: ± 0.2°C
- Range of ΔT Circuit: -5°C to +5°C

Relative Humidity

The relative humidity is monitored by using a WeatherMeasure H324–S hair hygrograph. It uses the time-tested human hair bundle as the sensor for relative humidity. The precision and range are as follows:

- Precision: ± 1% from 20% to 80%; ± 3% at extremes
- Range: 0 - 100%

Barometric Pressure

The barometer is the B242 Analog Output Barometer by Weather-Measure. This barometer provides an output voltage that is linearly proportional to pressure. The specifications on the instrument are as follows:

- Precision: ± 1 mm Hg
- Range: 550-627 mm Hg

Solar Radiation

The pyranometer at the site is the Eppley Precision Spectral Pyranometer. This instrument is used for the measurement of sun and sky radiation totally or in defined wavelength bands. The pyranometer is levelled and mounted atop a wooden stand 1 meter from the ground surface. Care has been taken to eliminate the effects from all outside influences, such as reflection or shadows, on the pyranometer. The instrument characteristics are as follows:

- Precision: ± 0.05 cal/cm^2/min
- Range: 0-2 cal/cm^2/min

- Site 020

Wind Speed and Direction

The wind speed and direction apparatus used is the Model W1034 Low Threshold Recording Wind System by WeatherMeasure. The specifications are as follows:

Wind Speed

- Starting Threshold: 0.6 mph
- Distant Constant: 5 feet
- Precision: ± 0.2 mph or 1% (whichever is greater)

Wind Direction

- Starting Threshold: 0.75 mph
- Distance Constant: 3.5 feet
- Precision: ± 1° or 0.5% (whichever is greater)

Temperature

Same as described under Site 023, Temperature.

Mixing Height, Inversion Height, and Stability Type

An AeroVironment Model 300A acoustic radar is employed for the continuous measurement of the atmospheric mixing height, inversion height, and stability type. An acoustic enclosure is used to surround the antenna and thereby reduce any spurious noise received in the antenna side lobes. The specifications of the acoustic sounder are as follows:

- Precision: ± 10 m
- Range: 30-500 m

A value of OS on the data sheets indicates that the mixing height is at least 500 meters (the full scale of the instrument).

- Sites 042 and 056

Wind Speed and Direction and Temperature

The wind speed, wind direction, and temperature equipment employed is the Model 1071 Mechanical Weather Station manufactured by Meteorology Research. The equipment specifications are as follows:

Wind Speed

- Starting Threshold 0.75 mph
- Response distance: 18 ft (63% recovery)

- Flow Coefficient: 7.9 ft/revolution
- Precision: ± 2%

Wind Direction

- Starting Threshold: 0.75 mph
- Delay Distance: 4 ft (50% recovery)
- Damping Ratio: 0.5 to 0.6
- Precision: ± 1% of full scale
- Range: 0° to 540°

Temperature

- Precision: ± 2°C
- Range: -35°C to 49°C

- Miscellaneous

Upper Air Wind Speed and Direction, and Temperature

The upper air wind speed and direction as a function of altitude are measured by tracking a pilot balloon by use of the double-theodolite technique. The theodolites used are manufactured by Warren-Knight. The specifications are as follows:

- Precision: ± 0.1° (elevation)
  ± 0.1° (azimuth)
- Range: 0-90° (elevation)
  0-360° (azimuth)

The upper air temperature as a function of altitude is obtained by attaching a temperature-sonde to a pilot balloon, and the signal transmitted from the temperature-sonde is monitored by using a radio receiver. The temperature-sonde is manufactured by Aeromet. The specifications are as follows:

- Precision: ± 0.4°C (-40 to -5°C)
  ± 0.2°C (-5 to 80°C)
- Range: -40 to +80°C

The radio receiver is also manufactured by Aeromet. Its specifications are as follows:

- Precision: ± 0.2°C
- Range: -50 to +50°C

- Calibration

Calibration of meteorological equipment is done off-site. The wind sensors are calibrated by use of an NBS traceable wind tunnel, the temperature sensors by use of an NBS traceable thermometer, and the pressure sensors by use of an NBS traceable mercury barometer. The relative humidity sensor is calibrated by using a sling psychrometer.

Daily check of the meteorological equipment is performed by comparing the monitored data with that of the local weather service when applicable. Also, the data obtained from the different levels of the 60-meter tower is compared for consistency check.

1.3 Data Description

1.3.1 Description of Data Tables

The data tabulations contain average values for each day, and the peak hourly average for the day. Along the bottom, the average for each hour, averaged over the month, is compiled. For these particular averages, there is no minimum data requirement (those averages are contained in Volume II). If a substantial amount of data is missing for any reason, the averages would be biased. Air quality is given in $\mu g/m^3$ usually, with values for NO_x computed on the basis of the molecular weight of NO_2, and those for HC and THC based on the molecular weight for CH_4.

On the wind direction sheets, "PV" and "PREV" indicate prevailing wind direction divided into 16 sectors with a "1" indicating a prevailing direction between 348.5 and 11.0 degrees, a "2" corresponding to 11.5 to 34.0 degrees, and so forth. (i.e., a "1" indicates wind from the 22.5° sector centered on N, a "2" indicates winds generally from the NNE, and "3" from the NE, etc.

Symbols used on the data sheets are:

CA	Calibration
MT	Maintenance (changing paper, tape, filters)
FO	Flame out (on the gas chromatographs)
IM	Instrument malfunction
PF	Power failure (generator failure, power outages)
RF	Recording system failure (chart jams, runs out, tape cassette fails, on-site computer goes down)
LI	Local interference (Car nearby, contamination by generator)
OS	Off scale (at top of chart data valve greater than range of instrument)
SE	Special experiment (instrument off-line for bag sample analysis or removed for special measurements in area.
VA	Variable wind direction
IN	Interference (CO_2 interference on sulfur data, SO_2 inteference in oxidant readings)
NV	Not visible (data not visible, within range of instrument/recorder; data presumed monitored)

See the attached example sheets.

1.3.2 Data Acceptance Algorithm

The EA chart recorder logs data once every 2-1/2 minutes giving about 24 values per hour. Strip chart data is considered to represent the hour if more than 30 minutes of the record is valid

Data collected in the first 15 minutes after calibration is generally discarded. Data is considered erroneous if any of the status indication or the station log suggests instrument malfunctioning. In addition, air quality data collected in the first 15 minutes after a brief power outage (less than 10 minutes), in the first hour after a medium duration outage (up to one hour), or in the first four hours after longer outages, will be discarded as unreliable. Any anomalous data reflecting signal spikes or dropouts with a response rate faster than ascribable to atmospheric phenomena (e.g., a tripling of NO_x levels from one scan to the next, followed by a return to the old level on the succeeding scan) will be deleted as an artifice caused by the system.

As an additional check, the calibrated data is also screened manually. First, data is scanned to detect extreme values. When a spurious value is located, it will be checked for its validity. In all cases when invalidated data is deleted, a record of these deletions is maintained. Only the validated data will be reported.

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
Meteorology (Cont'd)				
Wind Direction	Weathermeasure W1034 (Site 020)	N/A	1°	N/A
Temperature	MRI 840(Site 023)	-50°C	1°C	-50°C
	MRI 1071 (Site 042,056)	-35°C	1°C	-35°C
Delta Temperature	MRI 840	N/A	0.2°C	N/A
Relative Humidity	Weathermeasure H324-S	3%	1% (20-80%) 3% (at extremes)	3%
Barometric Pressure	Weathermeasure B 242	462 mm Hg	1 mm Hg	462 mm Hg
Solar Radiation	Eppley Spectral Pyranometer	0.05 cal/cm^2/min	0.05 cal/cm^2/min	0.05 cal/cm^2/min
Mixing Height Inversion Height Stability Type	AV 300A Acoustic Radar	30 m	10 m	30 m

*whichever is greater

1.3.3 Data Precision and Lower Detection Limit

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
		Air Quality		
SO_2	Meloy SA185-2A	10 μg/m^3	15 μg/m^3	15 μg/m^3
H_2S	Meloy SA185-2	6 μg/m^3	6μg/m^3	6 μg/m^3
NO	Monitor Labs 8440E	2 μg/m^3	5 μg/m^3	5 μg/m^3
NO_x	Monitor Labs 8400E	4 μg/m^3	5 μg/m^3	5 μg/m^3
NO_2	NO_x - NO	4 μg/m^3	6 μg/m^3	6 μg/m^3
THC	Bendix 8200	70 μg/m^3	70 μg/m^3	70 μg/m^3
CH_4	Bendix 8200	70 μg/m^3	70 μg/m^3	70 μg/m^3
NMHC	THC - CH_4	70 μg/m^3	90 μg/m^3	90 μg/m^3
CO	Bendix 8200	0.1 mg/m^3	0.1 mg/m^3	0.1 mg/m^3
O_3	Meloy OA 350-2	2 μg/m^3	20 μg/m^3	20 μg/m^3
TSP	GMWC-2000H	0.5 μg/m^3	6% or 1 μg/m^3*	1 μg/m^3
		Meteorology		
Wind Speed	MRI 1074-2 (Site 023, 10m, 30m, 60m)	0.5 m/s	1% or 1 m/s*	1 m/s
	MRI 1071 (Site 042, 056)	0.5 m/s	2% or 1 m/s*	1 m/s
	Weathermeasure W1034 (Site 020)	0.5 m/s	1% or 1 m/s*	1 m/s
Wind Direction	MRI 1074-2 (Site 023, 10m,30m,60m)	N/A	1%	N/A
	MRI 1071 (Site 042, 056)	N/A	5°	N/A

1.3.4 AV Nomenclature for Components

Abbreviation (alphabetical order)	Component
BARP	Barometric Pressure
CH4	Methane
CO	Carbon Monoxide
DT2	Delta T#2 (Temperature at 60 m - Temperature at 10 m)
HC	Hydrocarbons (corrected for methane)
H2S	Hydrogen Sulfide
INV	Invension Height
MIX	Mixing Height
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOX	Oxides of Nitrogen
O3	Ozone
PART	Particulates (24 hour average)
RH1	Relative Humidity at level 1 (1 m/3 ft.)
SOLR	Solar Radiation (sky only)
SO2	Sulfur Dioxide
STB1	Stability Type at level 1 (50 m)
STB2	Stability Type at level 2 (200 m)
TEM2	Temperature at level 2 (10 m/30 ft.)
TEM3	Temperature at level 3 (30 m/100 ft.)
TEM4	Temperature at level 4 (60 m/200 ft.)
THC	Total Hydrocarbons
WD2	Wind Direction at level 2 (10 m/30 ft.)
WD3	Wind Direction at level 3 (30 m/100 ft.)
WD4	Wind Direction at level 4 (60 m/200 ft.)
WS2	Wind Speed at level 2 (10 m/30 ft.)
WS3	Wind Speed at level 3 (30 m/100 ft.)
WS4	Wind Speed at level 4 (60 m/200 ft.)

1.3.4

▨ = Final Output

Final Data Summary Sheet

Project 176

Date

	1977				1978											
	SEP	OCT	NOV	DEC	JAN.	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SITE 020																
WS1 (10 m)									▨							
WD1 (10 m)									▨							
MIX									▨							
INV									▨							
STAB1 (50 m)									▨							
STAB2 (200m)									▨							
PART									▨							
SITE 023																
WS2 (10 m)									▨							
WS3 (30 m)									▨							
WS4 (60 m)									▨							
WD2 (10 m)									▨							
WD3 (30 m)									▨							
WD4 (60 m)									▨							
TEM2 (10m)									▨							
TEM3 (30m)																
TEM4 (60m)																
DT2 (60 - 10m)									▨							
RH1 (1 m)									▨							
BARP									▨							
SOLR									▨							
NO									▨							
NO2									▨							
NOX									▨							
O3									▨							
SO2									▨							
H2S									▨							
CO									▨							
CH4									▨							
HC									▨							
THC									▨							
PART									▨							
PIBAL									▨							
SITE 042																
WS1 (10 m)									▨							
WD1 (10 m)									▨							
PART									▨							
TEMP									▨							

■ = Final Output

Final Data Summary Sheet

Project 176

Date

	1977				1978												
	SEP	OCT	NOV	DEC	JAN.	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SITE 056																
WS1 (10 m)									■							
WD1 (10 m)									■							
PART									■							
TEMP									■							

II B-1083

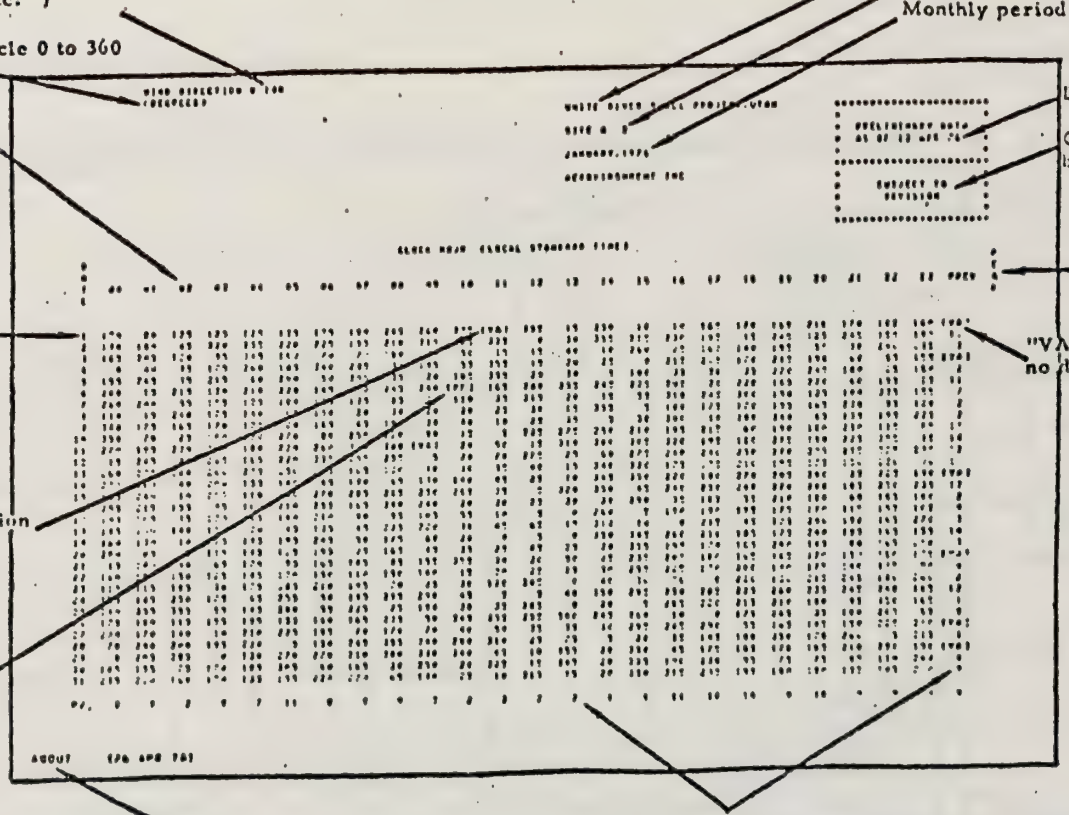
1.4 Descriptive Regional Meteorological Summary

May 1978

Precipitation was above normal with two periods of snowfall. Most low pressures reformed and intensified over the Rocky Mountain area.

Temperatures were below normal because the amount of sunshine was below normal.

MONTHLY WIND DIRECTION SHEET KEY



Project location

Air quality site number.
(see map for location)

Monthly period which the data covers.

Date that the data was printed.

Changes may still be made to the data, based on later inputs.

Peak column is not used

"VA" stands for variable, which indicates no definite prevailing wind direction.

Altitude of measurements (10 meters, 20 meters, etc.)

Units are degrees of a circle 0 to 360 to the nearest 5 degrees.

Beginning hour in Local Standard Time (never Daylight Savings Time). Thus the hourly average under hour "02" occurred during the period 0200 to 0300.

Day of the month.

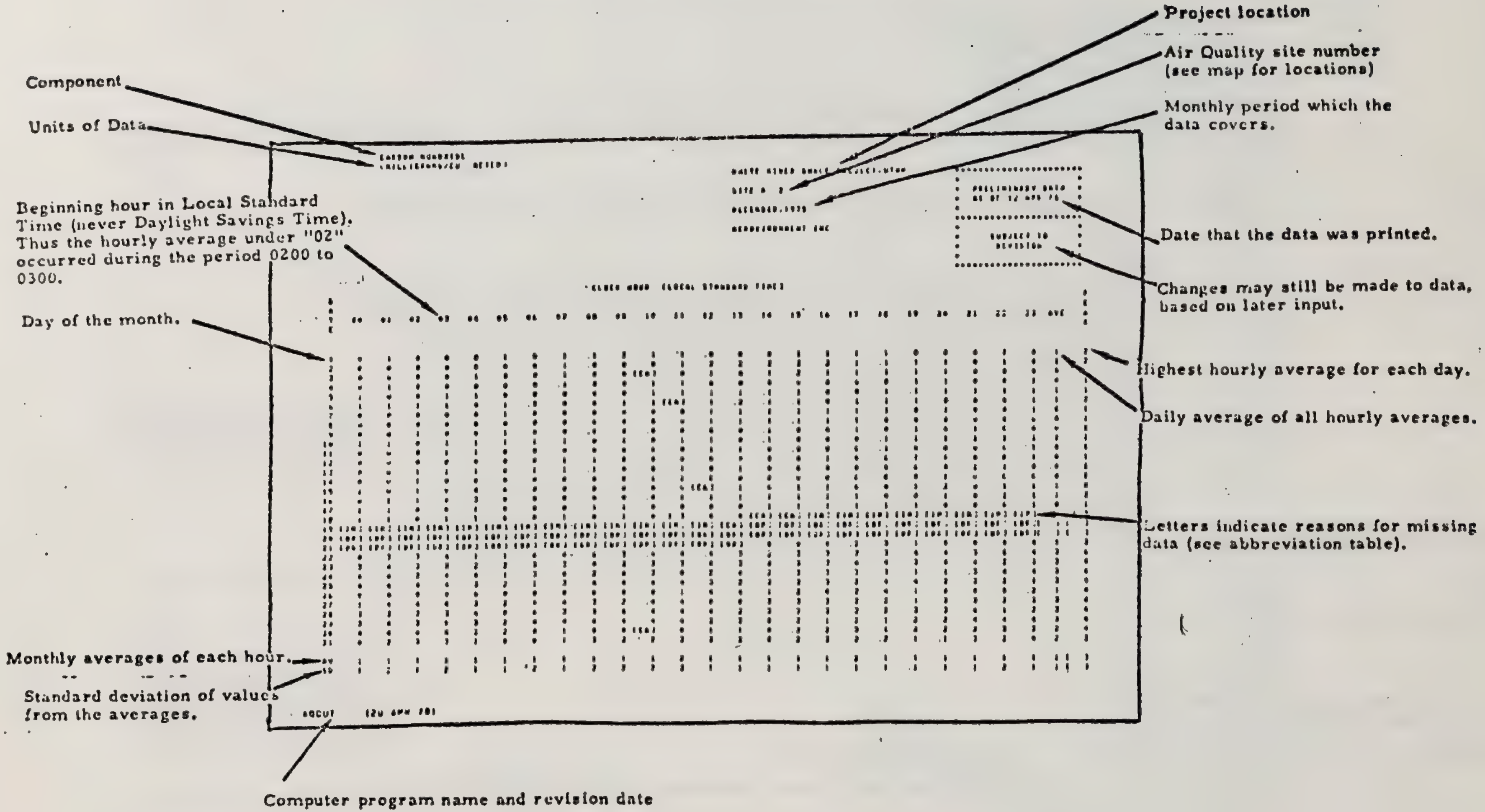
"VA" stands for variable, which indicates no definite hourly average wind direction is possible.

Malfunction code indicates reason for missing data (see abbreviation table).

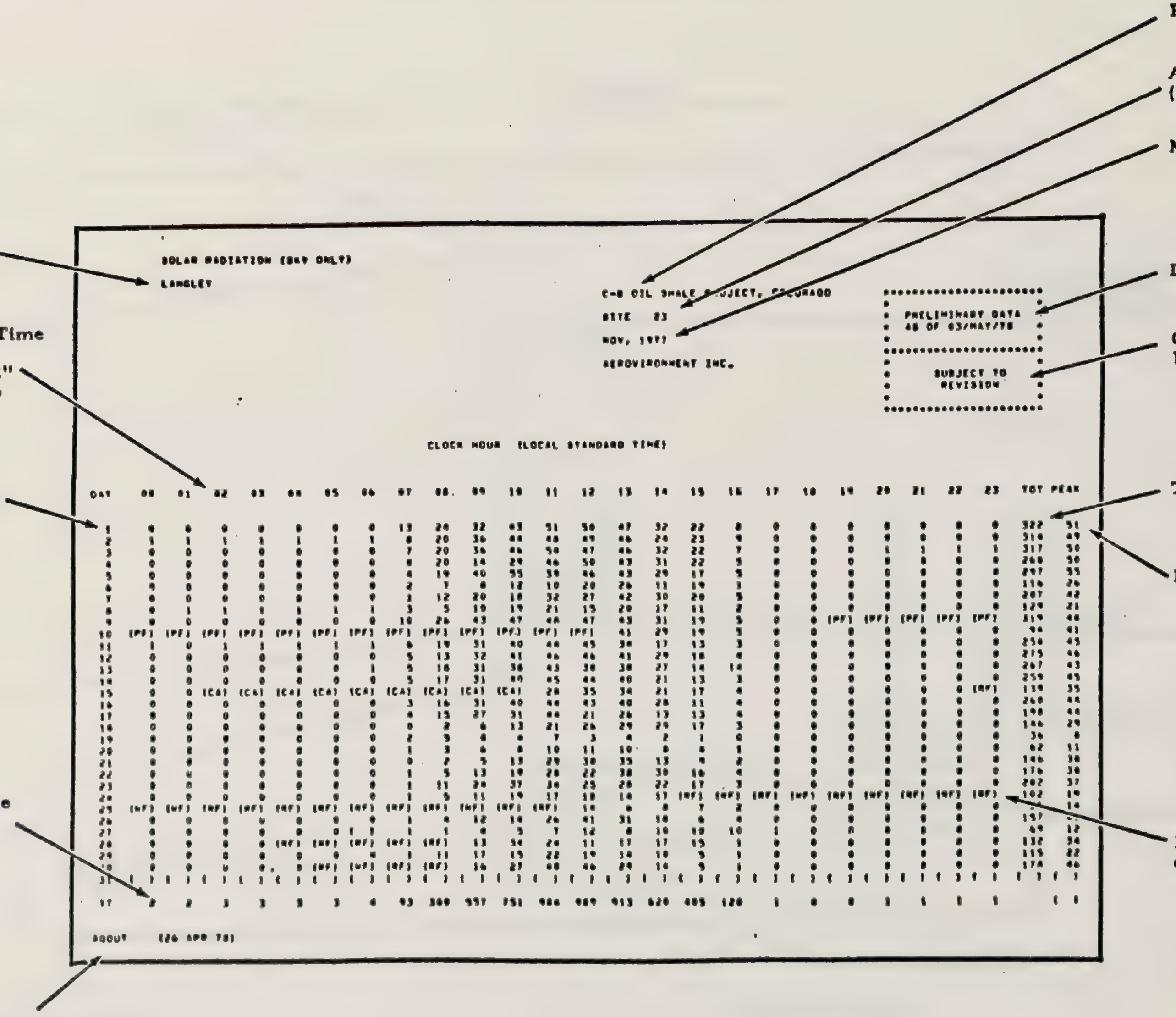
Computer program name and revision date

Monthly prevailing wind direction is divided into 16 sectors. Sector "1" indicates a prevailing direction between 348.5 and 11.0 degrees (22.5 degree sector) centered on North. Sector "2" corresponds to 11.5 to 34.0 degrees, centered on the NNE, etc.

MONTHLY COMPONENT SHEET KEY


Project location
Air Quality site number (see map for locations)
Monthly period which the data covers.
Component
Units of Data
Date that the data was printed.
Beginning hour in Local Standard Time (never Daylight Savings Time). Thus the hourly average under "02" occurred during the period 0200 to 0300.
Changes may still be made to data, based on later input.
Day of the month.
Highest hourly average for each day.
Daily average of all hourly averages.
Letters indicate reasons for missing data (see abbreviation table).
Monthly averages of each hour.
Standard deviation of values from the averages.
Computer program name and revision date

MONTHLY SOLAR RADIATION SHEET KEY



Project Location

Air Quality site number
(see map for locations)

Monthly period which the data covers.

Units

Date that the data was printed.

Beginning hour in Local Standard Time (never Daylight Savings Time). Thus the hourly average under "02" occurred during the period 0200 to 0300.

Changes may still be made to data based on later input.

Day of the Month

Total Solar Radiation for the day

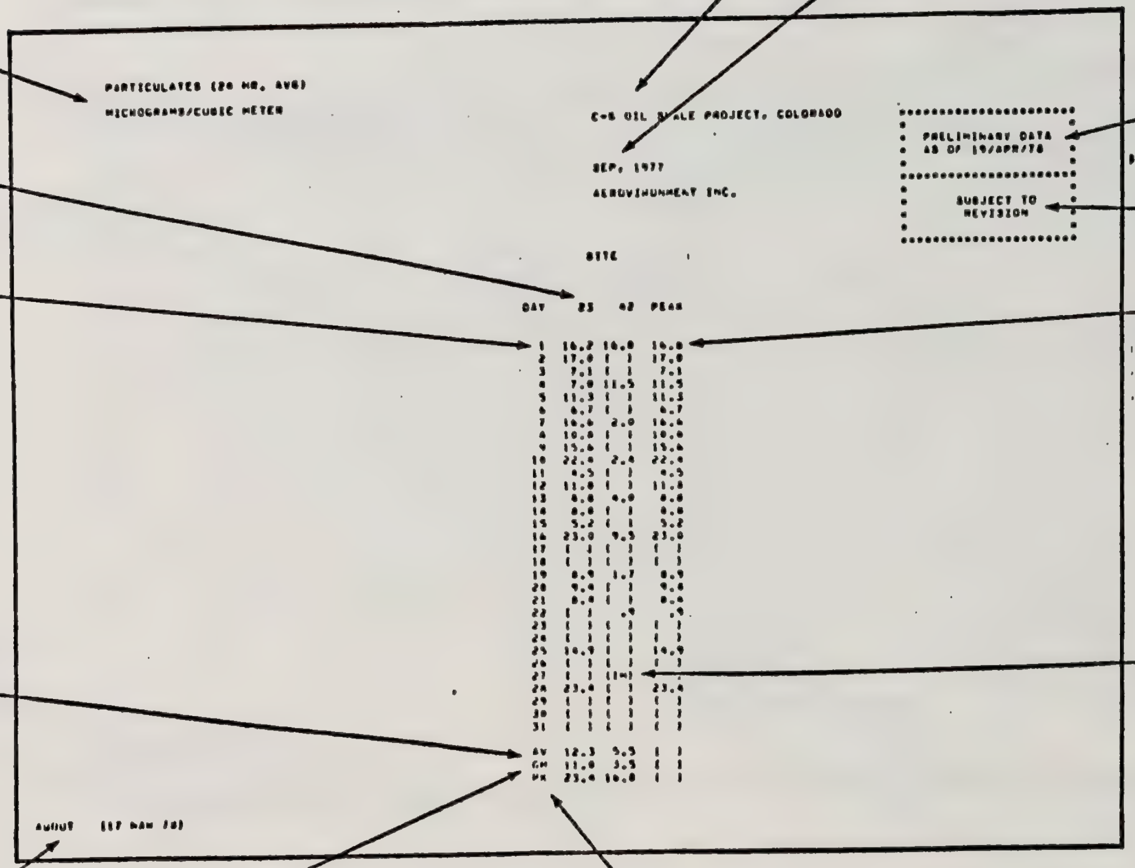
Highest hourly average for the day.

Total Solar Radiation for the hour of the month.

Letters indicate reasons for missing data (see abbreviation table).

Computer program name and revision date

MONTHLY PARTICULATES SHEET KEY



```
PARTICULATES (24 HR. AVG)
MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SEP, 1977

AEROVIRONMENT INC.

PRELIMINARY DATA
AS OF 19/APR/78

SUBJECT TO
REVISION

SITE

DAY   25   42   PEAK
```

Project location

Monthly period which the data covers

Units

Date that data was printed

Changes may still be made to data based on later input.

Air Quality site number (see map for location)

Day of the Month

Highest 24-hour average for the day.

Letters indicate reasons for missing data (see abbreviation table).

nthly 24-hour averages of each site

Computer program name and revision date

Geometric mean of values from the averages

Highest 24-hour average for each site

SECTION 2.0

METEOROLOGY

WIND SPEED AT LEVEL 1

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-A OIL SHALE PROJECT, COLORADO

SITE 20

MAY, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 28/JUL/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	3	1	1	1	1	1	2	2	1	2	3	4	4	3	3	3	5	1	2	1	1	2	2	1	2	5
2	1	0	2	2	2	2	1	1	1	3	4	5	4	4	4	3	4	4	3	2	1	2	1	2	2	5
3	3	3	0	1	1	1	1	1	2	3	4	4	4	6	9	2	2	2	2	1	1	3	2	3	3	9
4	1	2	2	1	1	1	1	1	2	4	4	4	6	4	4	5	4	3	5	4	2	2	3	3	3	6
5	2	2	1	1	2	1	1	1	2	4	4	4	5	4	4	4	4	4	3	1	1	1	1	1	2	5
6	1	1	2	2	2	3	1	2	2	2	2	2	4	4	4	5	5	4	3	2	1	1	1	0	2	5
7	1	1	1	3	4	2	2	3	4	3	2	4	2	3	2	3	3	3	2	1	1	1	0	1	2	4
8	1	1	2	2	3	1	2	1	2	3	5	2	4	4	4	4	3	3	1	1	1	1	2	2	2	5
9	2	2	1	2	3	2	4	3	2	2	4	4	4	3	3	4	4	4	3	2	2	3	4	4	3	4
10	3	5	4	3	3	2	3	5	6	6	4	6	6	5	5	5	5	4	2	1	2	2	1	1	4	6
11	2	2	2	2	2	3	2	2	4	5	6	5	5	8	8	8	2	8	3	4	6	3	4	5	4	8
12	4	2	3	3	1	1	1	1	2	3	2	4	4	6	5	5	5	4	4	2	2	2	2	3	3	6
13	5	3	4	4	3	5	5	4	3	2	2	3	2	3	4	4	5	4	3	2	1	2	2	3	3	5
14	6	4	4	3	2	4	5	2	6	5	4	6	6	6	7	6	6	4	2	1	3	3	3	2	4	7
15	3	2	2	2	3	3	3	3	4	5	5	5	6	6	6	7	4	4	3	3	4	2	3	3	4	7
16	4	2	2	1	2	3	3	5	5	6	6	6	7	7	6	7	8	4	8	6	5	4	4	3	5	8
17	3	2	3	0	0	1	1	0	0	1	2	3	3	2	4	3	4	3	2	1	2	1	1	1	2	4
18	1	1	1	1	2	2	2	2	3	4	4	4	3	3	3	3	3	3	3	3	1	1	2	2	2	4
19	2	2	3	2	2	3	3	2	3	4	4	4	4	3	3	4	4	4	3	2	1	1	1	1	3	4
20	2	2	2	2	2	2	2	1	1	2	3	4	4	3	3	3	3	4	2	3	4	3	4	3	3	4
21	3	3	4	4	4	3	2	3	4	5	4	4	5	7	3	3	4	1	2	4	4	3	3	3	4	7
22	2	2	3	4	3	4	4	4	4	3	4	4	4	4	4	5	5	4	2	2	2	2	3	2	3	5
23	2	2	2	2	3	3	2	3	5	6	6	6	7	8	3	6	5	4	4	3	3	2	4	3	4	9
24	3	3	4	4	3	3	4	5	5	6	7	7	7	7	7	7	6	6	4	1	2	2	2	3	4	7
25	2	2	3	2	2	3	2	2	5	5	5	6	6	6	7	7	6	5	4	1	3	3	4	3	4	7
26	3	2	2	2	0	1	2	2	1	3	5	6	5	5	5	4	4	4	2	2	2	2	2	3	3	6
27	1	1	2	2	3	2	1	0	1	3	2	3	6	6	3	4	4	3	3	2	1	1	2	2	2	6
28	2	1	2	2	3	4	3	1	3	4	4	3	4	4	4	5	4	3	3	2	1	2	2	4	3	5
29	3	2	2	4	4	3	3	2	1	2	3	4	5	(RF)	(RF)	(RF)	(HF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	3	4
30	(HF)	(RF)	(RF)	(RF)	(HF)	(HF)	(HF)	(RF)	(RF)	5	4	4	3	3	4	3	4	4	5	3	2	2	2	3	3	5
31	2	2	2	2	1	2	2	3	3	1	2	2	2	2	3	3	4	4	3	1	1	1	4	1	2	4
AV	2	2	2	2	2	2	2	2	3	4	4	4	4	5	4	4	4	4	3	2	2	2	2	2	3	(1
SD	1	1	1	1	1	1	1	1	2	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	(1

ADOUT (15 MAY 78)

WIND SPEED AT LEVEL 2

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 28/JUL/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	3	1	1	1	1	1	1	1	1	1	1	2	2	2	3	4	4	2	1	1	1	1	1	1	2	4
2	1	1	1	2	1	1	1	1	1	2	2	4	4	4	4	4	4	4	4	3	2	1	1	2	2	4
3	2	1	1	1	1	1	1	1	2	3	4	3	4	5	8	4	2	1	2	2	1	2	3	4	2	8
4	2	2	2	2	1	1	1	1	4	2	4	4	3	5	4	4	4	4	4	5	2	1	3	2	3	5
5	3	2	1	1	1	1	1	1	1	1	3	5	5	5	6	5	5	5	5	4	1	1	1	1	3	6
6	1	2	1	3	2	2	2	1	3	2	2	2	2	4	4	5	6	6	6	4	3	3	1	3	3	6
7	3	3	1	1	1	4	3	1	2	4	3	2	2	2	2	2	2	1	1	1	1	0	(IM)	(IM)	2	4
8	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1	1	3	6	4	4	7	6	4	4	3	2	2	1	2	1	1	3	7
9	1	1	1	1	1	1	1	1	2	4	4	4	4	3	3	4	5	5	4	4	4	3	4	5	3	5
10	5	2	4	4	7	6	5	6	8	8	7	7	7	8	6	6	6	6	4	3	4	3	3	1	5	8
11	1	2	1	1	3	4	6	6	6	6	7	6	6	8	9	6	4	6	8	5	7	4	5	5	5	9
12	4	3	4	2	1	2	1	1	2	2	2	2	4	4	3	4	4	4	4	2	3	2	1	1	3	4
13	1	1	2	2	2	2	2	1	3	2	3	3	3	4	5	4	5	5	5	4	4	3	2	2	3	5
14	2	2	3	2	1	2	2	5	6	6	5	7	7	8	8	7	7	5	5	3	2	3	3	3	4	8
15	3	3	3	3	4	4	4	4	5	6	8	7	7	8	8	8	7	5	5	4	4	4	2	4	5	8
16	4	4	3	4	7	5	6	7	6	7	8	8	9	8	7	7	6	8	7	5	4	4	3	4	6	9
17	3	3	2	1	1	2	2	0	0	0	1	3	3	3	3	3	2	3	4	2	2	1	2	3	2	4
18	2	3	4	2	4	3	4	5	4	6	4	5	4	5	4	5	4	5	6	5	4	2	2	2	4	6
19	2	1	2	1	1	1	1	2	3	2	4	4	3	2	4	4	4	4	5	3	3	2	3	3	3	5
20	2	-0	1	1	1	1	1	1	2	2	3	4	4	4	2	4	3	3	3	0	4	4	4	4	2	4
21	2	2	2	2	5	3	1	3	4	4	5	5	6	5	4	4	3	3	4	5	5	2	3	3	4	6
22	2	2	2	3	2	2	2	4	4	4	6	7	7	6	6	8	9	6	4	5	5	5	3	2	4	9
23	6	4	5	4	5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	10	13	7	9	7	8	6	6	7	7	13
24	6	6	7	6	6	6	8	7	8	8	8	11	11	13	11	12	11	11	9	6	3	4	2	4	8	13
25	2	3	4	6	5	4	4	2	7	8	7	8	7	9	10	9	9	9	7	6	4	4	4	3	6	10
26	1	1	2	3	1	1	3	1	2	2	8	8	7	7	5	7	8	7	7	4	2	3	2	3	4	8
27	2	3	4	3	3	3	2	1	1	2	3	3	7	8	8	5	3	7	4	4	3	2	1	2	3	8
28	2	1	1	1	1	1	1	1	3	4	4	4	4	4	4	5	5	4	4	3	2	3	1	1	3	5
29	2	4	2	1	1	1	1	1	2	3	4	6	6	5	5	5	7	8	8	6	4	6	8	8	4	8
30	8	4	4	3	2	2	1	1	5	7	4	4	3	3	4	4	5	6	9	5	5	4	5	9	4	9
31	5	4	4	4	2	1	2	3	2	2	2	3	4	3	3	3	4	4	4	4	2	3	2	2	3	5
AV	3	2	2	2	2	2	2	2	3	4	4	5	5	5	5	5	5	5	5	4	3	3	3	3	4	( )
30	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	1	2	2	1	( )

AQOUT (15 MAY 78)

WIND SPEED AT LEVEL 3

METERS/SECOND
LEVEL HEIGHT : 30 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 28/JUL/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	4	2	1	1	1	1	1	1	1	1	2	2	3	2	3	4	4	2	1	1	1	1	2	1	2	4
2	1	1	2	3	1	2	1	1	1	2	3	4	5	4	4	4	4	5	4	4	3	2	2	2	3	5
3	2	1	1	1	1	1	1	2	2	4	4	4	5	5	7	5	3	2	2	3	1	2	4	4	3	7
4	3	2	2	2	2	2	1	2	4	4	4	4	4	6	4	5	5	4	4	5	2	1	3	3	3	6
5	3	2	1	1	1	1	2	2	2	1	3	5	5	6	7	6	5	6	6	4	2	2	1	1	3	7
6	1	4	3	4	4	3	3	2	3	3	3	3	2	4	4	5	7	7	7	6	4	4	2	4	4	7
7	4	4	2	2	5	5	3	1	3	4	3	3	3	3	2	3	3	2	2	1	1	2	1	2	3	5
8	2	2	2	2	2	2	1	2	2	3	5	6	4	5	7	6	5	4	3	2	3	3	1	1	3	7
9	1	1	1	1	2	1	2	1	2	4	4	5	4	4	4	5	6	6	5	5	6	4	6	7	4	7
10	7	4	5	6	9	7	6	7	10	9	8	10	8	8	8	8	8	7	6	4	7	4	4	2	7	10
11	1	3	1	2	5	6	8	8	8	7	8	7	7	7	10	8	4	7	9	6	8	7	7	7	6	10
12	6	4	5	3	2	3	1	2	2	3	3	3	4	6	4	4	5	5	4	2	4	4	1	2	3	6
13	2	1	2	3	1	3	3	2	3	3	4	4	4	4	6	5	6	8	6	5	6	4	2	2	4	8
14	2	2	6	3	2	1	2	6	7	6	7	8	8	9	8	9	8	5	5	4	4	5	5	5	5	9
15	6	5	5	4	6	6	5	4	7	8	10	8	8	9	9	9	7	6	7	6	5	6	3	5	6	10
16	5	4	4	5	8	6	8	9	8	8	8	8	11	10	7	7	7	9	8	6	6	4	4	4	7	11
17	4	4	2	2	1	3	2	1	0	1	1	3	4	4	2	3	2	4	4	3	3	1	2	4	2	4
18	3	4	4	3	3	4	4	5	6	5	5	5	5	5	4	5	5	5	5	6	5	3	3	2	4	6
19	2	1	1	1	1	1	1	1	2	2	4	4	3	3	4	4	4	4	5	3	4	2	3	3	3	5
20	2	-1	1	0	1	1	1	1	2	2	3	3	4	3	2	4	2	3	3	6	4	4	4	4	3	6
21	3	2	2	3	5	4	2	4	4	4	5	5	5	4	4	4	3	4	4	6	5	3	3	4	4	6
22	3	2	3	3	1	2	2	4	4	4	6	6	6	5	6	8	8	6	5	5	5	5	4	2	4	8
23	7	5	6	4	5	(HF)	(RF)	(HF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	9	9	7	8	6	7	5	6	7	6	9
24	6	6	7	7	6	7	7	8	8	8	8	9	10	11	10	10	10	10	8	5	4	4	4	4	7	11
25	4	2	5	7	6	4	4	3	7	8	6	7	7	9	9	9	8	8	7	6	4	4	4	4	6	9
26	1	2	3	4	1	2	3	1	1	4	8	8	8	7	6	7	8	6	6	4	4	3	2	3	4	8
27	2	2	3	3	3	4	2	1	1	2	2	2	7	8	6	4	4	6	4	3	3	2	2	2	3	8
28	2	1	1	1	1	1	1	1	3	5	4	4	4	4	4	4	5	4	4	3	2	4	1	1	3	5
29	2	4	2	1	1	1	1	1	2	3	4	4	5	6	5	5	7	7	7	7	5	6	8	9	4	9
30	7	4	4	2	2	2	1	1	4	6	5	4	4	3	4	4	4	6	8	6	5	4	5	6	4	8
31	5	4	4	4	3	1	2	2	2	2	2	3	4	3	3	3	3	4	4	4	2	3	1	1	3	5
AV	3	3	3	3	3	3	3	3	4	4	5	5	5	6	5	6	5	5	5	4	4	3	3	3	4	( )
SD	2	1	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	( )

AQOUT (15 MAY 78)

WIND SPEED AT LEVEL 4

METERS/SECOND
LEVEL HEIGHT : 60 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

****
*   *
*   FINAL DATA   *
* AS OF 04/AUG/78   *
*   *
****

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	4	2	1	1	1	1	1	0	1	1	1	1	3	3	3	4	4	2	1	1	1	1	2	1	2	4
2	1	1	2	2	1	1	1	1	1	2	3	4	4	4	4	4	4	4	4	4	4	2	2	1	3	4
3	1	1	2	2	2	1	0	2	2	4	4	4	5	5	6	4	3	2	2	3	1	2	4	4	3	6
4	3	2	2	2	2	2	1	2	4	4	4	5	5	6	4	5	5	3	5	6	2	1	3	3	3	6
5	3	2	1	1	1	1	2	2	2	1	3	5	5	6	7	6	5	6	7	4	2	2	1	1	3	7
6	1	3	3	4	3	3	3	2	3	3	3	2	2	4	4	6	7	8	7	6	4	4	2	4	4	8
7	5	4	2	2	5	5	3	1	3	4	3	3	3	3	2	3	3	2	1	1	1	2	1	1	3	5
8	1	2	2	2	3	2	2	2	2	4	8	4	4	7	7	5	4	4	3	2	3	3	2	1	3	8
9	1	0	1	1	2	1	1	1	2	4	4	4	3	3	4	6	5	6	5	6	6	4	6	7	3	7
10	7	4	6	8	10	9	7	7	10	10	8	10	10	8	8	8	8	8	7	5	7	5	4	3	7	10
11	1	3	1	2	7	7	8	9	9	8	8	8	7	10	10	8	4	8	9	6	8	8	8	7	7	10
12	6	4	6	3	2	3	1	1	2	3	3	3	4	7	4	4	5	5	5	3	6	5	4	3	4	7
13	4	2	2	3	2	2	2	2	3	3	4	4	4	4	6	4	7	7	6	7	7	5	1	2	4	7
14	2	4	7	4	2	2	2	6	8	7	7	8	8	9	9	10	8	7	7	5	4	5	6	6	6	10
15	6	7	6	7	8	8	7	4	7	8	10	9	8	8	9	10	8	8	7	7	5	6	3	6	7	10
16	6	4	4	5	9	7	8	8	8	9	9	9	10	8	7	8	7	10	8	6	5	4	4	4	7	10
17	3	3	2	2	1	3	2	1	0	1	1	3	4	4	2	3	1	3	4	3	3	1	2	5	2	5
18	4	5	4	3	4	6	5	5	6	5	6	6	5	5	5	6	5	5	6	7	6	4	3	3	5	7
19	2	1	1	1	1	1	1	1	2	2	4	4	4	3	4	4	4	4	5	4	4	2	3	3	3	5
20	2	4	1	1	1	1	0	1	2	2	3	3	4	4	2	4	3	3	4	8	5	4	5	5	3	8
21	3	2	2	2	6	4	2	4	4	4	5	5	6	5	4	5	3	4	4	7	7	3	3	4	4	7
22	3	3	2	3	3	2	3	3	4	5	5	7	7	7	7	8	10	7	6	6	6	6	4	2	5	10
23	8	7	7	6	7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	10	11	8	10	7	8	6	6	8	8	11
24	7	7	8	8	8	8	7	8	8	8	9	9	10	11	11	10	11	10	9	6	4	4	5	5	8	11
25	4	3	6	8	8	7	4	2	8	8	6	7	8	8	9	9	10	8	8	7	4	4	5	4	6	10
26	2	3	4	4	1	2	3	1	1	2	8	7	8	7	6	9	8	7	6	5	4	3	2	2	4	9
27	2	2	3	1	3	3	1	1	1	2	2	3	7	8	8	4	4	7	5	4	3	2	2	2	3	8
28	1	1	1	1	1	1	1	1	3	5	4	4	4	4	4	4	4	4	4	4	2	4	2	2	3	5
29	2	2	2	1	1	2	1	1	2	3	4	4	5	6	4	6	7	8	8	7	7	7	8	10	4	10
30	8	5	5	3	1	2	1	2	4	6	5	4	3	3	4	4	5	6	10	6	5	5	6	6	5	10
31	5	3	3	4	3	1	2	2	2	2	2	3	4	3	3	3	3	4	4	4	2	3	2	1	3	5
AV	3	3	3	3	4	3	3	3	4	4	5	5	5	6	6	6	6	6	6	5	4	4	4	4	4	( )
SD	2	2	2	2	3	3	2	2	3	3	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	( )

AQOUT (15 MAY 78)

WIND SPEED AT LEVEL 1

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 42

MAY, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 03/AUG/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
3	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
4	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
6	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
8	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
9	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
10	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	9	9	6	8	8	8	7	8	7	7	4	3	5	3	2	6	9
11	1	2	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	2
12	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
13	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
14	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
15	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	6	7	7	8	9	8	9	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	8	9
16	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
17	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
18	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	5	4	4	4	5	4	5	4	2	2	1	4	5
19	2	2	2	2	1	2	1	1	2	2	4	4	3	3	4	4	4	4	3	1	1	2	1	0	2	4
20	1	-1	2	2	2	2	1	0	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	2
21	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
22	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	5	5	5	6	6	5	8	9	5	4	4	3	2	2	2	5	9
23	2	2	2	2	2	3	3	(RF)	8	8	9	10	11	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	5	11
24	5	6	6	6	6	5	6	7	7	8	9	9	10	11	10	11	9	9	8	4	4	2	2	2	7	11
25	2	2	2	1	2	3	2	2	7	7	6	7	7	8	9	9	8	8	5	4	8	4	2	2	5	9
26	2	2	2	2	1	1	2	1	1	3	7	7	6	6	7	7	6	6	5	3	2	2	2	2	4	7
27	1	1	2	2	3	2	1	1	1	2	3	4	8	9	5	5	4	6	3	3	2	1	2	1	3	9
28	2	1	2	2	2	2	1	1	4	4	4	3	5	4	5	5	4	4	4	2	2	2	2	3	3	5
29	2	2	2	2	3	2	2	1	2	2	4	5	5	4	4	6	6	7	6	5	4	4	7	3	4	7
30	4	5	3	1	2	2	2	2	7	4	3	4	4	3	4	4	4	5	7	6	3	3	4	5	4	7
31	4	3	4	3	2	1	2	3	3	2	3	3	3	3	3	3	4	4	4	2	2	1	1	1	3	4
AV	2	2	3	2	2	2	2	2	4	5	6	6	6	6	6	6	6	6	5	4	3	2	2	2	4	( )
SD	1	1	1	1	1	1	1	2	3	2	2	2	2	3	2	2	2	2	2	1	2	1	2	1	2	( )

AQOUT (15 MAY 78)

WIND SPEED AT LEVEL 1

METERS/SECOND
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 56

MAY, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 04/AUG/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	4	1	1	(RF)	(RF)	(RF)	(RF)	2	1	1	4	2	3	3	3	3	4	1	0	1	1	1	1	1	2	4
2	1	1	2	2	2	1	1	2	1	3	3	3	4	3	3	3	3	3	2	2	1	1	1	1	2	4
3	1	1	1	1	1	1	1	1	2	3	4	4	4	4	6	3	2	1	2	1	1	2	2	1	2	6
4	2	2	1	2	1	1	1	1	2	4	4	4	4	4	4	5	4	2	4	4	1	3	1	(RF)	3	5
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	3	4	6	4	5	5	4	4	5	5	4	1	1	1	1	3	6
6	1	1	2	3	2	2	2	2	2	2	1	1	3	4	2	4	5	4	4	2	1	1	1	1	2	5
7	1	1	1	2	3	1	1	1	2	2	2	2	2	2	2	2	3	2	2	1	1	1	(RF)	(RF)	2	3
8	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	2	3	2	(RF)	2	2	3	5	5	5	3	3	2	1	2	2	1	3	5
9	1	1	1	1	1	1	1	2	3	3	2	3	4	3	3	2	4	4	4	3	1	2	2	2	2	4
10	1	1	3	2	2	2	2	1	3	4	5	5	4	6	5	5	6	4	4	2	1	2	3	1	3	6
11	1	2	2	2	2	1	2	2	1	4	4	5	5	4	4	5	5	4	4	4	2	4	3	2	3	5
12	5	4	2	1	2	2	1	2	2	1	4	3	3	4	4	5	4	5	4	3	2	2	3	2	3	5
13	2	2	2	2	2	2	2	3	4	3	2	2	3	2	3	3	4	4	4	4	1	3	2	2	3	4
14	2	2	2	3	2	2	3	4	3	4	4	4	5	5	6	5	6	4	5	3	2	2	3	3	3	6
15	2	2	2	2	2	2	3	2	5	4	4	5	4	5	6	5	5	4	3	3	2	2	2	2	3	6
16	2	2	3	2	1	1	2	1	4	4	5	5	4	7	6	5	4	7	8	8	5	4	4	4	4	8
17	3	3	3	2	1	0	1	1	1	0	1	1	2	3	3	3	3	3	2	3	1	3	1	1	2	3
18	1	1	1	1	1	(RF)	(RF)	(RF)	2	3	3	4	3	4	2	3	2	2	3	3	2	2	3	2	2	4
19	2	1	2	2	2	1	1	2	1	3	4	3	4	3	3	2	4	4	4	4	1	2	2	1	2	4
20	1	1	1	2	1	2	2	2	2	1	2	3	3	4	4	3	3	2	3	2	2	3	2	2	2	4
21	2	1	1	1	2	1	2	2	2	2	4	4	4	4	4	4	2	4	3	2	2	3	2	2	2	4
22	2	1	1	1	1	1	2	3	3	4	4	3	4	4	4	4	4	5	5	3	1	1	2	1	3	5
23	2	2	2	2	2	1	1	2	2	3	4	4	5	5	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	3	5
24	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
25	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
26	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
27	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
28	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
29	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
30	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	2	2	2	2	2	1	2	2	2	3	3	3	4	4	4	4	4	3	4	3	1	2	2	2	3	( )
SD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	( )

AUDIT (15 MAY 78)

WIND DIRECTION AT LEVEL 1

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

MAY, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*   AS OF 28/JUL/78  *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	115	100	105	110	110	110	115	115	295	285	285	280	280	275	35	250	85	300	305	60	100	125	[VA]	105	6
2	90	105	85	95	140	120	20	200	[VA]	[VA]	275	290	305	290	290	325	310	300	330	80	115	115	120	130	6
3	130	145	100	105	110	105	120	315	300	300	310	320	300	290	320	320	260	260	105	115	300	300	310	320	14
4	300	295	335	260	270	350	10	80	60	[IM]	340	310	320	260	315	305	345	275	295	355	100	310	280	280	15
5	280	310	[IM]	305	350	100	230	[IM]	270	355	345	350	340	325	320	310	325	340	355	75	280	50	[VA]	110	15
6	110	95	75	85	120	120	[IM]	[IM]	180	[IM]	310	305	305	165	320	235	185	190	165	125	115	135	120	95	6
7	340	90	310	285	285	260	270	275	275	[IM]	[VA]	[IM]	20	120	105	230	130	125	[VA]	70	110	[IM]	[IM]	[IM]	[VA]
8	[IM]	[IM]	[IM]	[IM]	130	125	115	90	80	200	310	235	325	335	340	355	[IM]	[IM]	[IM]	[IM]	100	105	105	100	6
9	100	115	100	110	125	120	130	130	100	135	195	180	150	145	145	180	165	185	185	110	85	110	110	125	6
10	115	130	105	105	100	110	110	130	170	175	205	210	210	220	220	230	230	235	205	115	[VA]	330	150	[IM]	[VA]
11	[IM]	105	110	110	105	120	115	305	225	235	230	220	220	250	255	310	300	265	260	300	275	295	335	320	11
12	325	310	315	285	105	100	105	120	265	280	230	270	290	280	285	290	300	300	315	85	90	85	95	105	14
13	120	120	130	135	130	140	135	135	135	120	220	165	300	240	220	250	220	220	210	100	70	95	85	125	7
14	135	115	100	100	90	120	130	130	170	175	185	165	205	220	230	210	230	215	210	120	110	125	110	95	6
15	115	95	100	100	100	105	105	145	175	185	180	180	170	170	175	165	190	180	145	125	120	120	115	115	6
16	110	105	35	105	115	110	130	150	175	170	175	170	175	190	245	290	305	310	305	300	295	310	310	310	15
17	340	305	285	355	330	350	320	80	90	350	220	350	300	295	305	260	125	200	90	85	80	130	125	110	[VA]
18	105	110	110	110	110	120	115	130	190	205	240	185	220	210	225	260	180	205	205	110	70	100	105	110	6
19	115	120	120	110	120	135	110	300	290	285	285	280	285	275	345	340	355	355	0	140	[VA]	100	110	110	6
20	110	110	110	110	110	105	120	5	[IM]	[IM]	285	285	280	280	220	100	0	315	165	105	110	120	120	130	6
21	130	125	135	130	90	90	75	95	110	105	120	130	105	145	120	100	95	195	85	90	85	110	105	125	5
22	105	115	130	130	[RF]	130	130	[RF]	[RF]	230	230	235	225	220	205	190	[RF]	[RF]	[RF]	130	115	115	115	115	6
23	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	180	190	190	190	195	200	215	205	200	[RF]	[RF]	[RF]	[RF]	[RF]	10
24	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	155	180	195	190	175	195	195	190	185	195	205	190	235	[RF]	[RF]	[RF]	[RF]	[RF]	9
25	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	230	180	185	185	180	195	165	170	170	170	165	220	130	115	125	130	125	9
26	105	95	120	110	80	105	95	115	110	[VA]	[VA]	180	175	175	185	195	195	220	220	205	95	100	110	125	6
27	90	110	120	120	140	10	65	75	290	285	280	245	220	260	170	260	355	110	130	100	90	80	120	120	6
28	125	130	110	130	135	135	140	105	315	330	335	285	290	330	300	280	300	300	320	55	110	105	115	120	6
29	135	105	135	140	135	130	130	115	115	115	200	200	225	285	240	235	215	205	195	180	180	250	180	100	[VA]
30	370	260	[VA]	50	120	105	105	50	290	290	290	300	310	285	330	330	305	315	335	340	315	300	300	0	14
31	[VA]	40	330	305	90	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	260	285	285	270	310	0	30	100	115	110	100	[VA]
PV	6	6	6	6	6	6	6	6	14	9	[VA]	9	14	13	15	15	15	10	10	6	5	6	6	6	6

AQOUT [15 MAY 78]

WIND DIRECTION AT LEVEL 2

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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*     FINAL DATA     *
*  AS OF 28/JUL/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	120	45	215	260	235	150	210	190	105	320	10	15	320	275	200	300	20	130	5	225	185	165	135	240	11
2	(VA)	230	235	175	165	155	220	240	275	305	310	310	350	350	320	325	335	305	335	330	290	235	255	245	15
3	230	190	275	245	275	225	225	40	5	350	330	345	345	325	350	350	335	25	345	40	120	30	120	165	1
4	165	215	210	250	20	240	235	285	325	335	355	340	350	345	340	310	340	325	270	305	40	65	330	325	16
5	330	350	285	330	255	325	60	35	45	345	340	15	20	15	15	355	0	355	0	55	85	250	195	165	1
6	175	205	220	205	200	180	135	120	200	215	200	210	225	215	200	215	215	210	220	210	190	180	185	210	10
7	210	220	105	(VA)	270	315	330	265	315	335	335	325	340	40	45	190	355	110	135	95	135	215	(IM)	(IM)	16
8	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	195	180	255	255	295	310	15	10	10	0	5	10	50	150	190	180	210	(VA)
9	165	215	215	90	180	100	105	70	75	225	195	210	230	235	210	210	200	215	215	200	205	190	180	185	10
10	185	155	190	200	195	190	185	195	200	215	210	215	225	215	225	230	235	240	235	215	240	285	295	330	10
11	190	215	105	185	210	215	220	220	215	240	245	235	235	240	235	285	295	280	230	270	300	270	325	345	11
12	355	350	335	240	240	225	195	295	270	345	315	315	330	310	340	315	320	315	315	245	205	205	5	210	16
13	210	90	105	140	120	120	115	95	215	190	220	215	230	215	265	255	230	220	225	200	205	215	105	115	11
14	95	90	195	165	105	90	80	195	200	205	215	215	215	215	225	235	215	230	230	210	200	205	205	210	10
15	190	195	210	205	205	200	195	205	220	205	210	200	210	210	205	210	195	205	205	190	165	185	120	170	10
16	170	150	150	195	180	190	195	190	210	205	205	205	210	220	230	280	310	325	315	315	305	305	325	340	10
17	345	340	290	295	265	300	250	210	230	255	295	245	205	275	120	255	145	205	220	200	195	(VA)	175	210	10
18	200	205	195	195	175	190	200	190	200	185	210	205	205	205	215	195	210	220	215	195	195	(VA)	255	240	10
19	225	210	195	190	(VA)	260	45	330	340	355	320	315	335	350	350	355	5	5	355	5	10	295	235	235	16
20	225	220	185	(VA)	235	70	55	350	345	350	345	340	345	305	105	95	245	350	230	185	170	155	155	145	16
21	50	45	105	135	170	145	75	85	105	115	110	105	120	220	190	175	185	255	205	165	160	120	100	120	6
22	115	105	115	120	105	80	80	125	175	215	225	215	215	210	195	205	205	210	200	175	165	175	160	110	10
23	175	180	175	175	180	170	175	175	175	175	185	175	170	170	(MT)	190	195	205	200	190	185	190	175	175	9
24	170	170	170	155	170	170	170	185	185	190	190	205	195	195	195	190	195	205	210	215	190	185	185	175	9
25	190	200	185	185	190	200	175	355	190	195	180	195	195	195	185	195	190	190	200	205	190	160	165	195	9
26	165	135	210	270	165	250	235	55	40	15	185	195	210	190	185	200	205	225	220	225	190	195	250	200	10
27	215	230	235	230	180	15	135	330	300	330	310	255	210	210	250	260	240	355	55	85	115	165	200	(VA)	11
28	210	330	215	75	210	135	245	0	320	0	350	345	5	300	310	330	330	330	340	310	240	210	70	105	16
29	90	190	190	120	160	225	240	75	15	40	225	220	200	210	240	240	215	210	215	200	200	210	215	190	10
30	195	310	270	215	155	150	235	315	290	310	315	345	300	325	355	0	325	315	355	10	0	340	340	0	15
31	25	50	345	345	75	330	310	250	320	15	300	315	340	340	310	310	0	330	15	15	225	150	180	300	15
PV	10	10	10	9	9	9	10	10	10	16	10	11	10	10	10	10	10	10	11	10	9	9	9	9	10

AQOUT (15 MAY 78)

WIND DIRECTION LEVEL 3

DEGREES
LEVEL HEIGHT : 30 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 10/AUG/78

CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	110	60	205	255	270	130	205	175	55	355	350	355	305	270	195	320	5	100	350	230	180	145	115	250	10
2	40	275	250	155	165	345	145	260	290	310	290	310	325	325	315	325	315	315	325	325	295	265	280	265	15
3	240	205	325	350	345	240	270	15	345	350	315	330	340	325	325	325	320	345	325	15	75	15	100	145	16
4	145	185	240	270	350	230	255	290	325	330	355	355	325	325	330	300	330	325	270	310	30	40	330	320	16
5	325	340	300	340	315	350	[VA]	15	25	345	330	0	355	0	350	350	350	340	350	40	45	240	190	140	1
6	900	185	210	195	195	170	130	130	185	205	190	190	225	205	185	215	205	200	210	200	185	185	180	200	10
7	200	210	85	270	260	310	325	270	310	315	325	330	330	30	325	210	25	90	115	90	80	200	270	[IM]	15
8	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	290	310	205	240	290	295	310	355	5	355	0	345	355	25	110	170	135	240	1
9	[VA]	230	210	15	180	100	100	60	100	215	195	225	225	215	190	210	205	205	210	190	190	180	175	175	10
10	180	180	185	195	190	185	180	190	190	205	210	210	215	215	225	225	220	235	230	210	220	290	295	325	[VA]
11	145	205	145	190	195	210	210	215	210	225	235	225	230	230	235	265	255	255	225	265	295	265	315	345	11
12	350	340	325	265	270	225	230	305	290	320	305	295	300	295	305	315	305	315	305	250	195	190	205	200	14
13	210	145	135	125	135	110	100	75	205	195	215	185	215	210	255	235	225	210	215	190	195	125	80	125	10
14	100	175	185	195	160	125	95	190	185	205	215	205	205	205	215	230	215	215	215	205	190	190	185	180	9
15	175	180	185	185	190	185	185	190	205	190	195	185	195	195	195	195	185	195	195	180	155	185	130	170	9
16	165	140	155	180	175	175	185	175	200	190	190	185	205	205	230	280	300	305	295	300	295	295	310	325	9
17	325	320	280	[IM]	[IM]	295	250	210	280	325	310	350	325	325	110	235	150	195	220	200	190	5	175	215	[VA]
18	195	195	190	195	190	195	190	190	205	220	210	210	205	200	215	205	210	225	210	195	195	225	270	275	10
19	295	315	175	195	120	205	55	325	325	350	325	325	325	340	325	0	0	0	350	0	5	320	265	265	15
20	245	235	230	15	245	185	100	340	345	315	335	315	325	320	15	105	240	40	215	190	165	160	155	160	15
21	120	115	145	160	180	130	75	90	110	105	105	110	135	220	185	180	195	255	215	170	160	115	100	115	6
22	120	135	115	120	140	105	115	135	180	220	225	225	215	210	210	210	200	215	205	175	170	170	165	120	11
23	180	175	170	175	180	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	195	205	210	215	195	185	190	175	175	10
24	175	175	170	165	165	170	175	180	200	195	190	205	195	195	200	195	195	205	210	220	190	190	185	180	9
25	175	190	185	180	190	210	175	355	190	190	190	195	205	195	190	195	200	185	200	210	195	165	175	175	9
26	195	175	165	250	75	250	240	35	15	350	195	185	200	185	205	210	210	215	215	220	210	200	270	165	10
27	240	295	245	225	190	20	135	295	325	340	315	295	210	220	255	245	240	355	55	75	100	130	155	240	12
28	230	295	195	85	175	85	230	305	325	5	330	335	355	320	320	310	335	340	345	305	270	210	195	135	16
29	45	175	215	145	150	150	200	135	20	40	225	215	210	215	255	230	215	210	215	210	200	215	220	195	11
30	185	340	270	215	150	130	205	295	285	310	310	315	315	320	330	340	325	315	355	15	355	345	345	355	16
31	30	55	345	345	75	330	305	295	315	15	275	325	355	270	290	315	340	325	0	5	75	135	115	45	16
PV	9	10	9	9	9	10	10	15	10	10	15	10	10	10	11	10	10	10	11	10	9	9	9	9	10

AQOUT [15 MAY 78]

WIND DIRECTION AT LEVEL 4

DEGREES
LEVEL HEIGHT : 60 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 28/JUL/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	95	100	90	355	290	240	215	195	80	330	5	10	295	265	215	315	15	130	345	250	185	145	130	245	12
2	15	345	255	165	150	355	90	255	280	305	295	295	335	330	315	325	315	310	325	325	300	285	295	285	15
3	290	305	350	350	350	270	315	15	350	345	325	335	340	315	310	340	345	15	355	15	80	355	95	135	16
4	145	185	260	270	345	280	275	290	325	335	350	335	330	330	340	315	335	320	275	305	30	65	325	315	16
5	325	350	300	315	315	350	40	15	25	345	330	5	10	0	350	350	345	345	350	35	45	260	200	170	16
6	120	190	220	205	195	175	135	155	200	205	200	210	230	185	200	215	215	205	210	210	195	185	190	210	10
7	210	220	170	265	270	320	325	290	310	325	330	325	325	25	5	190	350	85	130	105	105	210	270	265	15
8	185	190	220	235	215	215	300	315	210	195	260	285	315	0	355	0	350	355	0	25	105	170	150	210	(VA)
9	195	215	175	135	185	165	160	90	(VA)	230	225	205	220	235	195	215	195	210	210	200	195	190	180	180	10
10	165	195	195	195	190	190	165	190	200	210	210	215	220	215	220	225	235	235	220	235	290	315	0	315	10
11	240	215	170	195	210	215	215	220	215	230	240	230	235	240	235	270	270	265	240	265	295	265	315	345	11
12	350	345	335	290	350	185	315	295	325	335	315	295	295	310	315	310	310	310	305	225	205	205	195	210	15
13	195	205	175	150	175	120	120	90	215	205	220	210	235	230	250	245	235	235	215	205	210	205	155	190	10
14	175	210	190	220	190	170	190	195	200	200	215	215	210	215	220	230	225	225	225	225	210	210	195	190	10
15	180	180	190	195	205	205	200	200	195	215	195	215	215	210	205	205	195	200	200	185	170	190	160	175	10
16	175	165	170	195	180	185	200	185	205	200	205	200	210	210	240	285	310	315	305	300	300	305	310	330	10
17	335	325	300	325	300	295	270	240	270	315	295	355	340	330	100	255	165	190	235	220	220	250	205	235	14
18	220	215	205	215	210	205	195	200	215	215	215	215	210	210	210	210	210	230	215	210	210	220	265	290	10
19	305	340	180	205	200	105	100	345	335	345	330	335	330	335	340	355	0	10	355	355	15	325	290	280	16
20	280	255	250	245	250	250	300	315	350	340	345	335	335	325	15	110	240	350	225	205	170	175	170	170	(VA)
21	140	130	165	175	185	150	100	100	110	130	115	120	135	240	205	195	185	260	210	180	170	130	145	145	7
22	145	160	155	175	180	175	135	140	175	225	230	225	220	225	215	210	205	215	210	185	180	175	175	145	9
23	175	175	175	175	180	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	200	200	205	210	205	185	190	180	175	9
24	180	180	170	165	170	170	175	180	200	195	200	210	195	195	195	200	210	210	210	230	210	200	205	195	10
25	180	185	190	185	200	200	210	200	195	195	195	205	210	195	190	195	205	190	210	215	210	180	180	185	10
26	190	185	185	240	350	310	270	210	15	15	195	195	195	195	205	210	210	220	220	230	230	225	285	75	10
27	355	315	270	255	210	10	85	290	300	335	320	300	210	220	260	255	285	0	55	75	90	115	100	240	14
28	240	300	195	210	215	75	210	300	325	0	350	350	355	315	310	320	330	325	340	310	295	235	215	195	15
29	75	(VA)	235	200	165	120	170	170	45	30	225	220	210	225	240	240	225	215	215	210	210	215	220	200	11
30	195	275	275	225	155	135	255	300	290	310	320	320	315	330	330	345	330	330	355	15	355	350	350	0	16
31	35	55	350	350	70	330	305	295	310	25	300	310	310	325	305	315	350	335	0	15	50	110	105	75	15
PV	10	9	9	10	9	9	10	10	10	(VA)	11	10	10	11	10	10	10	11	11	10	10	10	9	10	10

AOOUT (15 MAY 78)

WIND DIRECTION AT LEVEL 1

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 42

MAY, 1978

AEROVIRONMENT INC.

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*                   *
*    FINAL DATA     *
*  AS OF 03/AUG/78  *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
2	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
3	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
4	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
5	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
6	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
7	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
8	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
9	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
10	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	205	210	215	235	230	220	225	240	225	235	230	210	245	295	295	11
11	135	85	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[VA]
12	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
13	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
14	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
15	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	220	220	205	190	200	205	190	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	10
16	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
17	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
18	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	225	240	230	210	230	210	190	145	75	85	10	11
19	80	90	80	80	80	70	35	320	305	325	275	315	325	335	35	335	335	345	95	340	335	285	350	15	16
20	90	25	75	70	85	75	85	300	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	4
21	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]
22	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	220	215	240	210	210	205	205	195	205	195	155	145	70	75	100	11
23	90	90	70	80	95	115	165	[RF]	160	160	175	180	170	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[VA]
24	160	175	165	155	160	160	165	185	210	210	195	205	205	210	200	200	210	210	220	225	195	135	75	85	10
25	90	90	85	115	70	90	65	130	200	210	215	210	210	215	195	205	200	190	220	215	170	155	80	85	10
26	105	105	175	105	170	145	80	65	175	220	185	215	190	205	220	225	225	230	225	215	105	75	95	65	11
27	235	120	95	95	80	145	170	245	320	300	270	250	220	255	265	260	235	70	80	125	110	100	100	100	5
28	95	105	85	95	90	100	80	310	170	280	135	335	300	315	295	290	300	310	285	270	85	65	70	65	5
29	140	110	90	85	90	85	70	60	50	150	195	215	245	245	265	270	240	230	220	220	225	225	220	205	11
30	305	250	240	130	105	85	90	230	290	295	320	310	320	325	330	275	315	320	330	50	205	225	125	200	15
31	45	50	60	325	110	290	295	290	270	270	265	280	225	300	165	300	295	325	40	100	125	120	45	215	14
PV	5	5	5	5	5	5	5	14	10	10	11	11	10	11	10	11	10	11	11	11	[VA]	4	4	5	11

AQOUT [15 MAY 78]

WIND DIRECTION AT LEVEL 1

DEGREES
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 56

MAY, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 10/AUG/78

CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	70	105	135	[RF]	[RF]	[RF]	[RF]	60	90	305	305	290	275	295	300	40	20	125	225	210	125	105	110	135	7
2	155	150	145	85	105	120	205	260	245	305	295	305	305	310	310	310	310	310	310	240	175	150	140	130	15
3	125	110	145	155	110	110	95	130	275	305	305	320	305	290	285	290	280	320	320	115	115	120	120	120	6
4	105	120	95	130	150	185	145	85	255	315	325	320	335	325	315	320	320	265	280	315	75	290	305	[RF]	15
5	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	200	300	340	340	40	330	310	320	315	315	335	45	160	225	85	100	15
6	60	40	65	50	85	100	80	75	35	150	165	125	100	280	175	195	175	175	185	155	130	105	115	85	5
7	170	180	70	220	240	240	220	250	265	295	225	175	290	150	195	170	150	100	70	115	145	155	130	115	9
8	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	65	95	[RF]	285	280	310	55	300	45	20	65	285	85	155	135	150	14
9	130	105	115	145	130	105	130	75	55	50	350	200	160	180	160	90	165	155	160	190	150	100	110	85	7
10	40	130	90	90	150	150	145	115	125	165	170	175	190	195	195	190	200	205	210	220	215	120	280	220	10
11	170	130	135	130	135	135	145	115	145	205	210	205	185	185	205	215	265	250	255	245	245	275	205	270	10
12	15	80	235	165	205	155	95	80	70	340	310	15	315	330	350	315	305	315	310	295	185	110	110	125	15
13	130	110	130	125	105	100	105	70	55	50	165	295	345	125	355	70	205	200	195	190	195	120	120	125	6
14	130	105	125	105	145	150	110	65	70	155	160	175	170	160	170	190	200	200	195	200	185	130	130	120	[VA]
15	110	100	135	145	130	145	155	95	85	155	175	175	155	170	175	175	165	160	160	155	115	105	110	120	8
16	115	120	100	105	80	115	130	115	150	155	170	175	170	175	165	200	255	310	300	300	300	245	300	295	9
17	300	305	305	315	315	265	300	285	330	85	15	170	10	315	315	50	80	185	85	340	85	75	95	105	15
18	95	110	115	85	125	[RF]	[RF]	[RF]	110	165	160	170	210	190	200	185	240	195	195	195	185	125	110	130	9
19	145	145	135	125	135	155	135	80	60	320	315	355	310	345	320	315	265	95	135	60	110	130	135	145	7
20	155	140	135	155	140	150	145	80	65	355	325	325	320	310	310	50	45	10	355	330	145	105	110	110	7
21	105	85	85	95	105	110	125	60	115	85	90	105	90	90	175	15	60	80	80	195	125	100	110	110	5
22	95	105	125	110	125	125	70	60	70	60	95	175	190	195	180	185	180	175	170	185	140	130	130	120	[VA]
23	125	130	135	145	135	135	125	125	110	150	170	170	175	190	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	7
24	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
25	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
26	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
27	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
28	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
PV	7	6	7	7	7	6	7	5	4	15	9	9	9	[VA]	9	9	13	10	10	10	7	7	6	6	6

ADOUT [15 MAY 78]

TEMPERATURE AT LEVEL 2

DEGREES CELSIUS
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

****
* FINAL DATA *
* AS OF 28/JUL/78 *
****

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	4	3	2	2	1	0	1	1	3	5	9	9	9	10	10	9	8	3	3	3	3	3	3	3	4	10
2	3	2	1	1	0	0	0	1	2	3	5	7	10	11	11	12	12	13	12	11	9	8	7	6	6	13
3	6	5	6	6	6	5	5	6	6	8	8	9	11	12	9	9	9	9	10	9	8	6	5	3	7	12
4	3	3	3	3	3	1	1	2	3	4	5	6	6	6	6	5	4	3	2	1	-1	-1	-1	-2	3	6
5	-2	-2	-2	-3	-2	-2	-3	-3	-3	-1	-1	0	1	1	1	2	2	2	1	0	-1	-2	-2	-2	-1	2
6	-3	-3	-4	-2	-3	-3	-3	-2	-1	-1	0	1	2	1	1	3	3	3	3	1	0	-1	-1	-1	-0	3
7	-1	-1	-1	-1	-2	-3	-3	-3	-2	-1	-1	1	1	1	2	1	1	0	1	2	1	0	-1	-1	-0	2
8	-1	-1	-1	-1	-1	0	0	0	1	3	4	9	2	5	5	6	5	6	6	6	5	3	2	1	3	9
9	1	1	0	-1	-1	1	0	1	4	7	8	9	9	11	12	14	14	14	13	12	10	9	9	8	7	14
10	8	8	7	8	8	9	9	10	11	12	14	14	16	17	16	17	17	17	16	15	12	13	13	11	12	17
11	11	14	9	8	8	8	9	11	12	13	13	13	14	16	16	14	13	14	14	14	12	11	9	6	12	16
12	3	3	2	1	1	0	1	4	4	6	8	9	11	12	12	13	14	13	13	12	9	8	8	8	7	14
13	7	8	7	7	7	6	8	12	15	17	18	19	19	20	21	21	21	20	19	17	15	14	12	12	14	21
14	11	12	14	13	12	12	13	19	21	21	22	22	23	23	24	24	23	23	22	19	18	16	17	17	18	24
15	16	16	15	14	14	14	16	18	19	19	20	21	22	23	23	23	23	22	21	18	17	17	17	16	18	23
16	16	16	14	14	14	13	15	15	16	17	18	19	19	20	19	18	15	12	8	6	5	4	4	3	13	20
17	2	1	0	0	-1	-1	-1	-1	0	2	3	3	1	(MT)	2	4	2	3	1	1	2	1	2	1	1	4
18	1	1	1	1	1	1	2	3	4	5	7	8	9	9	11	11	12	12	11	9	7	6	6	5	6	12
19	8	5	4	4	3	2	4	6	8	11	12	14	14	15	16	17	17	16	15	13	12	10	8	7	10	17
20	6	-6	5	4	4	3	4	8	10	13	16	18	18	19	19	19	19	18	17	15	13	12	12	11	12	19
21	11	11	11	11	11	11	11	9	10	11	12	13	13	7	8	9	12	12	10	9	8	8	7	7	10	13
22	7	7	6	7	6	5	8	11	14	16	16	17	17	18	18	18	18	18	17	15	14	14	13	11	13	18
23	13	13	12	12	12	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	20	19	19	19	18	17	16	16	11	15	20
24	13	13	12	11	10	9	10	12	12	13	14	14	16	16	17	17	16	16	16	14	12	11	9	9	13	17
25	9	8	9	10	9	9	9	10	12	13	14	14	15	15	16	16	16	16	15	14	13	12	11	9	12	16
26	9	9	8	8	7	7	5	6	9	13	14	15	16	17	17	17	18	17	17	16	13	11	10	10	12	18
27	7	7	7	7	7	7	7	7	9	12	13	14	13	13	13	14	14	14	11	11	9	8	8	6	10	14
28	6	6	6	6	6	5	5	7	9	10	12	12	13	14	15	16	16	16	16	14	14	12	11	10	11	16
29	7	8	8	8	8	7	7	6	12	14	16	16	17	18	18	19	18	18	18	17	16	15	14	14	13	19
30	13	10	7	6	5	7	9	11	12	12	15	15	16	17	17	17	16	13	11	9	8	8	6	5	11	17
31	3	1	2	2	2	2	2	5	7	8	10	12	13	13	13	14	14	13	13	11	9	9	6	7	8	14
AV	6	6	5	5	5	4	5	6	8	9	11	12	12	13	13	14	13	13	12	11	9	8	8	7	9	( )
SD	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	( )

AQOUT (15 MAY 78)

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TEMPERATURE AT LEVEL 1

DEGREES CELSIUS
LEVEL HEIGHT : 10 METERS                          C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                       *                    *
                                                  SITE    42                           *     FINAL DATA     *
                                                                                       *  AS OF 08/AUG/78   *
                                                  MAY, 1978                            *                    *
                                                                                       **********************
                                                  AEROVIRONMENT INC.


                                     CLOCK HOUR  (LOCAL STANDARD TIME)

DAY    00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23    AVE PEAK

  1  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
  2  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
  3  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
  4  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
  5  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
  6  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
  7  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
  8  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
  9  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
 10  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   14   15   17   18   20   20   20   20   20   19   17   13   10   12   10    16   20
 11     8    5 (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)     6    8
 12  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
 13  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
 14  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
 15  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   20   21   22   24   24   25   25 (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)    23   25
 16  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
 17  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
 18  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   10   11   13   13   12   13   12    9    5    2    0     9   13
 19    -1   -2   -2   -3   -3   -4   -3    0    4    7   10   13   15   16   18   19   19   19   19   17   14   12    9    5     8   19
 20     2    1    1   -1   -1   -3   -3    0 (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)    -0    2
 21  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
 22  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)  (  ) (  )
 23  (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF) (RF)   22    1   21   20   20   19   17   16   15   14    16   22
 24    14   13   12   12   10    9   12   12   13   14   15   16   16   17   17   17   17   17   17   14   12    9    6    4    13   17
 25     3    3    2    2    3    3    6   11   13   13   14   15   17   18   18   18   18   18   16   15   12   10    6    4    11   18
 26     3    2    2    1    0   -1   -1    6   10   14   15   15   17   17    9   17   17   18   17   15   10    5    3    2     9   18
 27     4    4    4    4    4    6    6    9   12   14   15   16   14   13   12   14   13   10   10    9    7    5    3    4     9   16
 28     4    3    2    0    0    1    3    8   10   12   13   13   14   15   16   16   16   15   16   15   10    6    4    3     9   16
 29     4    2    3    1    0    1    3    9   13   16   18   18   18   19   20   20   21   21   21   20   17   16   15   15    13   21
 30    11    7    5    3    2    2    4    8   10   10   11   13   15   16   16   16   16   17   15   11   10    9    8    6    10   17
 31     3    0    0   -1   -1   -2   -1   -1    2    4    7    9   11   13   14   14   15   14   14   12    8    8    6    5     6   15

 AV     5    3    3    2    1    1    3    6   10   13   14   15   16   16   17   16   17   17   16   15   12    9    7    6    11 (  )
 SD     4    4    4    4    3    4    4    5    4    4    4    3    3    3    4    5    3    3    3    3    3    4    4    4     5 (  )

AUOUT     (15 MAY 78)
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TEMPERATURE AT LEVEL 1

DEGREES CELSIUS
LEVEL HEIGHT : 10 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 56

MAY, 1978

AEROVIRONMENT INC.

****
* FINAL DATA *
* AS OF 04/AUG/78 *
****

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	0	-1	-4	(RF)	(RF)	(RF)	(RF)	-3	0	4	6	8	10	10	10	6	6	0	0	0	0	0	-1	-2	2	10
2	-2	-3	-3	-3	-3	-3	-3	-3	-3	0	2	5	9	11	11	12	12	12	11	9	5	3	1	0	3	12
3	1	0	0	1	1	1	2	3	4	6	8	9	11	11	9	7	9	9	10	8	6	3	1	1	5	11
4	0	-2	-2	-3	-4	-5	-4	1	2	4	5	6	8	7	8	7	6	4	3	0	-1	-1	-2	(RF)	2	8
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	-2	-2	0	-1	0	0	0	1	1	0	0	-1	-2	-2	-3	-4	-1	1
6	-6	-6	-7	-6	-6	-7	-7	-5	-3	-2	-1	0	2	1	2	5	4	4	4	1	-1	-2	-1	-2	-2	5
7	-2	-2	-2	-3	-4	-5	-5	-4	-3	-3	-2	1	2	1	2	3	-2	-6	-1	0	0	-2	(RF)	(RF)	-2	3
8	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	0	3	(RF)	-1	-1	2	5	5	5	5	5	5	4	0	-2	-2	2	5
9	-6	-6	-6	-7	-7	-7	-7	-6	-2	3	7	10	10	11	13	14	15	14	13	11	8	3	1	-1	3	15
10	2	0	0	0	-1	-1	1	5	11	12	14	17	16	18	19	19	19	19	19	17	13	11	12	11	11	19
11	5	3	3	1	0	0	-1	1	4	10	13	14	15	15	15	16	14	13	13	15	14	13	11	10	9	16
12	5	4	2	0	-2	-3	-6	-4	1	3	4	6	9	10	11	13	13	13	14	13	10	5	3	2	5	14
13	-1	-2	-2	-3	-3	-3	-4	-1	4	10	16	18	20	21	22	23	23	23	22	21	17	13	9	7	10	23
14	5	4	4	3	2	2	3	6	11	19	23	25	23	23	24	23	24	25	25	22	18	13	9	7	14	25
15	5	4	4	4	3	2	1	4	10	18	20	21	23	25	25	24	25	25	24	22	17	13	10	9	14	25
16	9	9	8	8	8	7	9	9	15	18	18	19	19	20	20	21	20	15	12	8	4	3	2	2	12	21
17	3	1	0	-1	-2	-2	-3	-2	-2	-1	1	2	0	0	0	1	1	1	0	0	-2	-2	-2	-3	-0	3
18	-1	-2	-4	-3	-3	-4	-5	-3	-1	3	4	6	8	10	11	13	12	11	12	12	9	4	2	0	4	13
19	-2	-4	-4	-4	-4	-6	-6	-3	1	3	6	10	13	14	16	17	16	17	16	16	13	10	8	4	6	17
20	3	-1	-1	-1	-2	-3	-4	-1	2	7	10	14	17	19	20	21	21	21	19	19	18	14	13	11	10	21
21	10	9	8	8	7	7	8	9	9	9	9	10	12	13	11	5	7	10	12	11	9	7	7	7	9	13
22	5	4	4	2	3	0	-1	1	5	9	11	17	20	20	20	20	20	21	20	17	16	12	9	7	11	21
23	7	5	4	3	4	4	4	4	8	14	17	19	20	21	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	10	21
24	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
25	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
26	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
27	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
28	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
29	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
30	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
31	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
AV	2	1	0	-0	-1	-1	-1	0	3	6	9	10	12	12	12	13	12	12	11	10	8	5	4	3	6	( )
SD	4	4	4	4	4	4	5	4	5	6	7	7	7	8	8	8	8	9	8	8	7	6	5	5	5	( )

AQOUT (15 MAY 78)

DELTA T #2

DEGREES CELSIUS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 28/JUL/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
2	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
3	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
4	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
5	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
6	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
7	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
8	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
9	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
10	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
11	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
12	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
13	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
14	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
15	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
16	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
17	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
18	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
19	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
20	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
21	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
22	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
23	(IM)	(IM)	(IM)	(IM)	(IM)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
24	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
25	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
26	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
27	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
28	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
29	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
30	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
31	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
AV	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
SD	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )

AVOUT (15 MAY 78)

RELATIVE HUMIDITY AT LEVEL 1

PERCENT
LEVEL HEIGHT : 1 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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*     FINAL DATA     *
*  AS OF 28/JUL/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	84	89	92	94	94	94	94	94	85	70	55	48	49	43	40	55	61	88	90	90	90	90	90	90	78	94
2	90	90	90	90	90	90	90	90	90	90	80	70	53	45	39	35	34	32	31	43	57	65	67	70	68	90
3	80	82	81	79	77	78	81	82	74	69	60	45	36	33	44	50	41	38	39	44	49	56	69	69	61	82
4	74	73	66	68	69	71	71	65	45	40	36	34	29	33	32	33	40	50	60	73	90	89	87	91	59	91
5	92	92	92	92	92	92	92	91	82	75	75	67	65	65	62	58	53	55	58	62	85	90	90	90	78	92
6	90	89	86	85	78	77	80	80	77	60	56	49	42	45	48	48	41	38	39	45	61	67	72	75	64	90
7	78	79	89	90	92	92	91	91	90	84	74	69	64	70	73	68	73	86	83	77	77	82	87	89	81	92
8	91	91	89	88	88	88	87	87	85	78	61	73	86	66	56	48	42	42	36	38	42	48	59	63	68	91
9	66	66	66	66	65	66	66	67	59	49	35	34	30	28	23	21	21	22	20	19	23	33	44	49	43	67
10	51	52	54	52	50	47	42	41	40	35	33	29	27	22	19	18	18	18	17	17	19	25	23	28	32	54
11	32	38	42	49	51	52	52	48	42	39	38	34	32	31	31	28	27	32	36	33	32	31	39	46	38	52
12	51	71	75	77	80	84	82	77	66	43	36	33	31	28	24	21	20	19	18	18	18	22	32	38	44	84
13	42	44	45	46	47	48	48	48	47	39	28	24	23	22	21	19	17	15	15	15	15	18	22	28	31	48
14	33	37	38	39	39	39	40	41	40	29	22	20	18	18	17	15	13	11	12	14	14	16	23	28	26	41
15	29	30	30	30	30	33	34	35	32	28	25	24	22	22	19	16	15	14	14	15	16	17	20	23	24	35
16	23	23	24	25	26	28	29	31	32	30	29	27	25	23	22	19	19	21	29	33	40	58	71	75	32	75
17	75	76	85	91	91	91	91	91	91	91	82	71	68	67	75	66	65	74	76	84	87	90	90	90	82	91
18	90	89	86	82	82	82	83	83	81	71	63	53	47	44	39	34	30	29	29	26	23	23	30	42	56	90
19	44	(RF)	(HF)	74	75	71	64	56	48	38	27	26	25	24	23	23	23	23	24	31	45	55	70	75	44	75
20	79	80	82	85	86	88	81	69	57	48	36	24	20	19	19	20	21	22	27	36	43	50	54	56	50	88
21	59	62	63	65	65	64	68	82	83	73	63	56	47	77	85	81	68	58	67	73	75	79	83	86	70	86
22	88	89	89	89	89	88	81	57	46	38	35	29	25	27	27	26	24	26	28	35	41	43	42	45	50	89
23	46	44	44	43	43	41	41	33	27	22	19	17	16	15	15	15	15	16	17	17	17	17	17	19	26	46
24	21	22	24	24	29	35	36	33	31	28	25	21	20	17	16	14	15	15	14	17	23	33	35	36	24	36
25	36	37	36	31	29	30	31	34	25	24	22	21	19	18	16	16	15	15	15	16	20	26	31	38	25	38
26	43	44	45	44	45	51	56	53	46	39	26	21	19	17	15	15	14	13	14	19	28	32	34	39	32	56
27	46	47	49	53	55	56	60	55	48	42	37	35	38	38	39	37	35	49	53	57	65	72	78	81	51	81
28	81	81	81	85	87	88	81	64	50	42	37	34	31	31	27	26	25	24	25	30	40	44	45	45	50	88
29	53	55	57	57	60	62	61	54	40	33	28	27	24	23	23	23	22	21	22	26	28	29	33	37	37	62
30	50	76	86	86	87	83	63	41	32	22	25	24	23	23	23	23	23	22	22	25	28	29	31	34	41	87
31	49	66	70	72	73	74	75	75	72	62	51	39	35	31	28	26	25	23	22	22	23	29	31	33	46	75
AV	60	64	65	66	67	67	66	63	57	49	43	38	35	34	34	32	31	33	34	37	42	47	52	55	49	( )
SD	22	22	22	22	22	21	20	21	21	21	19	17	17	17	19	18	17	21	21	22	24	25	24	23	18	( )

AQOUT [15 MAY 78]

BAROMETRIC PRESSURE

MM OF HG

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 28/JUL/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	585	584	584	585	585	585	585	585	585	584	584	585	585	584	585	584	586	586	586	586	587	587	587	587	585	587
2	587	587	587	587	587	587	587	587	587	587	587	587	587	587	587	586	585	585	586	586	586	586	586	586	587	587
3	586	586	586	586	586	586	586	586	586	586	586	585	585	584	584	584	584	584	584	584	584	584	584	584	585	586
4	584	584	584	584	584	583	583	583	582	583	583	582	581	581	581	581	581	581	581	581	581	581	582	582	582	584
5	582	581	581	581	581	581	581	581	(CA)	581	580	580	581	581	581	581	581	581	581	581	581	581	581	581	581	582
6	581	581	581	581	581	581	581	581	582	582	582	582	582	582	583	582	583	583	584	584	584	585	585	585	582	585
7	585	585	585	585	586	586	587	587	587	587	587	587	587	587	587	587	587	588	589	589	589	590	590	590	587	590
8	590	590	590	590	590	590	590	590	590	590	590	590	590	590	591	592	592	592	592	593	593	593	593	593	591	593
9	593	593	593	593	593	593	593	593	593	592	592	592	591	590	590	590	590	590	590	590	590	590	590	591	591	593
10	590	590	590	590	590	589	589	589	589	(MT)	(MT)	(MT)	(MT)	(MT)	586	586	586	586	586	586	587	587	587	587	588	590
11	587	587	587	587	587	587	587	587	587	587	587	587	587	586	587	588	587	587	587	588	589	590	590	592	588	592
12	593	593	593	593	594	595	595	595	596	595	595	596	596	596	596	596	596	596	596	596	596	596	596	596	595	596
13	596	596	596	596	596	596	596	596	596	596	594	594	594	593	593	593	593	593	593	593	593	593	593	593	594	596
14	593	593	592	592	592	592	592	592	591	590	591	590	590	590	590	589	590	590	590	590	590	590	590	590	591	593
15	590	589	589	589	589	589	590	590	589	588	587	587	587	587	587	586	585	586	586	586	586	586	586	586	587	590
16	585	585	585	585	584	584	584	584	584	584	584	584	584	584	584	582	582	583	584	585	586	587	587	587	584	587
17	587	587	587	587	586	587	587	587	587	587	587	587	587	587	587	587	587	588	588	589	589	589	589	589	587	589
18	589	589	589	589	589	590	590	590	590	589	589	590	590	590	589	590	590	590	590	590	591	591	592	593	590	593
19	593	593	593	593	593	593	594	594	594	594	594	594	594	594	593	593	593	593	593	593	593	593	593	593	593	594
20	593	593	593	593	593	593	593	593	593	593	592	592	591	591	591	591	591	590	591	591	591	592	592	592	592	593
21	592	591	591	591	591	591	592	593	593	593	593	592	592	593	592	591	590	591	591	591	591	591	591	591	592	593
22	591	591	590	590	590	590	590	590	590	590	(CA)	588	588	589	588	588	587	588	588	588	588	588	588	588	589	591
23	588	588	587	587	587	587	587	587	587	587	587	587	586	585	585	584	584	584	584	584	584	584	584	584	586	588
24	584	585	585	585	585	586	586	586	586	585	585	586	587	586	586	585	586	586	586	586	586	587	587	587	586	587
25	587	587	587	587	587	587	587	587	587	587	587	587	587	587	587	587	587	587	587	587	588	588	588	589	587	589
26	589	589	589	589	589	590	590	590	590	590	589	589	589	587	586	586	586	586	586	587	587	587	587	587	588	590
27	588	588	588	588	588	589	588	589	588	588	587	587	587	587	588	588	587	588	589	589	589	590	590	590	588	590
28	590	590	590	590	590	590	590	590	590	590	590	590	590	590	590	589	589	590	590	590	590	590	590	590	590	590
29	590	590	590	590	590	590	590	590	590	589	588	587	587	588	587	587	587	586	586	586	586	586	586	586	588	590
30	586	586	586	587	586	586	586	587	587	586	585	585	584	584	584	584	584	584	584	585	586	587	587	587	586	587
31	587	588	588	588	588	588	588	589	589	589	588	580	587	587	587	586	587	587	587	587	587	587	588	588	587	589
AV	588	588	588	588	588	588	589	589	589	588	588	588	588	588	587	587	587	587	588	588	588	588	588	589	588	( )
SD	4	4	4	3	4	4	4	4	3	4	4	4	4	4	3	4	4	3	3	3	3	3	3	3	3	( )

AGOUT (15 MAY 78)

SOLAR RADIATION (SKY ONLY)

LANGLEY

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 28/JUL/78   *
*                    *
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CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	TOT	PEAK
1	0	0	0	0	0	0	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	0	0	0	0	0	0
2	0	0	0	0	0	0	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	59	37	17	8	4	0	0	0	125	59
3	0	0	0	0	0	2	7	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	0	0	0	0	9	7
4	0	0	0	0	0	0	12	29	47	67	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	0	0	0	0	155	67
5	0	0	0	0	0	0	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	0	0	0	0	0	0
6	0	0	0	0	0	0	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	0	0	0	0	0	0
7	0	0	0	0	0	0	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	0	0	0	0	0	0
8	0	0	0	0	0	0	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[IM]	[IM]	[IM]	[IM]	[IM]	0	0	0	0	0	0
9	0	0	0	0	0	2	19	36	53	67	77	84	85	80	71	56	36	24	10	0	0	0	0	0	700	85
10	0	0	0	0	0	0	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	64	43	29	13	4	1	1	1	1	1	158	64
11	1	1	1	1	1	3	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	2	1	1	1	1	1	15	3
12	1	1	1	1	1	4	18	36	54	67	76	83	84	80	71	57	42	24	8	1	1	1	1	1	714	84
13	1	1	1	1	1	2	14	30	48	62	74	80	86	86	75	60	46	29	11	1	1	1	1	1	713	86
14	1	1	1	1	1	1	12	30	47	62	74	82	84	82	74	63	47	29	9	1	1	0	0	0	703	84
15	0	0	0	0	0	0	[IM]	31	48	63	75	82	84	82	75	64	49	20	10	2	1	1	1	1	689	84
16	1	1	0	0	0	0	11	27	44	47	72	80	87	83	79	67	46	39	[IM]	0	0	0	0	0	654	87
17	0	0	0	0	0	0	1	1	3	13	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	1	1	1	1	1	1	24	13
18	1	1	1	1	1	2	13	23	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	16	3	0	0	0	0	62	23
19	0	0	0	0	0	0	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	0	0	0	0	0	0
20	0	0	0	0	0	0	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	0	0	0	0	0	0
21	0	0	0	0	0	0	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	1	1	1	1	1	5	1
22	1	1	1	1	1	2	12	27	36	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	37	17	8	1	0	0	0	145	37
23	0	0	0	0	0	1	2	19	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	73	56	[IM]	[IM]	7	1	0	0	0	159	73
24	0	0	0	0	0	1	5	21	39	56	69	78	83	83	80	70	[IM]	42	23	5	1	0	0	0	656	83
25	0	0	0	1	1	1	6	26	38	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	4	1	1	1	1	81	38
26	1	1	1	1	1	1	5	21	38	53	68	78	83	82	74	66	52	34	17	5	1	1	1	1	686	83
27	1	1	1	1	1	1	2	11	35	46	62	74	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	0	0	0	0	236	74
28	0	0	0	0	0	0	6	20	35	52	65	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	5	0	0	0	0	183	65
29	0	0	0	0	0	0	6	21	37	53	65	74	80	[IM]	[IM]	[IM]	[IM]	39	15	4	0	0	0	0	394	80
30	0	0	0	0	0	0	6	18	36	54	64	73	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	6	1	1	1	1	261	73
31	1	1	1	2	2	2	4	6	11	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	0	0	0	0	30	11
TT	10	10	9	11	11	25	161	433	649	762	841	868	756	658	663	619	462	367	160	64	18	10	10	10		( )

AQOUT (15 MAY 78)

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MIXING HEIGHT

METERS

                                                  C-B OIL SHALE PROJECT, COLORADO    **********************
                                                                                     *                    *
                                                  SITE   20                          *     FINAL DATA     *
                                                                                     *  AS OF 28/JUL/78   *
                                                  MAY, 1978                          *                    *
                                                                                     **********************
                                                  AEROVIRONMENT INC.


                                      CLOCK HOUR  (LOCAL STANDARD TIME)


 DAY    00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23    AVE PEAK

   1    30    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30     30   30
   2    30    30    30    30    30    30    30    30   130   130   130  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30    30     49  130
   3    30    30    30    30    30    30    30    70    80  [OS]  [OS]  [OS]  [OS]  [OS]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     40   80
   4  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ] [  ]
   5  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ] [  ]
   6    30    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     30   30
   7  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ] [  ]
   8    30    30    30    30    30    30  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     30   30
   9  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30    30     30   30
  10    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30     30   30
  11    30    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30     30   30
  12    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30    30    30     30   30
  13    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30    30    30     30   30
  14    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30    30    30    30     30   30
  15    30    30  [RF]  [RF]  [RF]  [RF]    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     30   30
  16  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]   [  ] [  ]
  17  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [RF]  [RF]  [RF]    30    30    30     30   30
  18    30    30    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30    30     30   30
  19    30    30    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30     30   30
  20    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30    30     30   30
  21    30    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30    30    30     30   30
  22    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30    30    30     30   30
  23    30    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30     30   30
  24    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30     30   30
  25    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30     30   30
  26    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30    30     30   30
  27    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30     30   30
  28    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30     30   30
  29    30    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     30   30
  30    30    30    30    30    30    30    30  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]     30   30
  31  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [RF]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]  [OS]    30    30    30    30    30     30   30

  AV    30    30    30    30    30    30    30    34    67   130   130  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]    30    30    30    30    30    30    30     30 [  ]
  SD     0     0     0     0     0     0     0    11    41     0     0  [  ]  [  ]  [  ]  [  ]  [  ]  [  ]     0     0     0     0     0     0     0      0 [  ]

AOOUT    (15 MAY 78)
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INVERSION HEIGHT

METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

MAY, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 28/JUL/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	230	200	220	240	270	300	330	140	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	70	120	170	140	202	330
2	150	200	210	250	250	200	220	260	260	280	260	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	110	170	240	210	220	218	280
3	170	250	240	250	260	210	140	170	160	(NV)	(NV)	(NV)	(NV)	(NV)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	206	260
4	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	160	80	(RF)	(RF)	(RF)	(RF)	(RF)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(RF)	(RF)	(RF)	(RF)	(RF)	120	160
6	90	130	210	210	250	170	140	90	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	161	250
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
8	150	200	240	160	200	200	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	192	240
9	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	70	150	140	130	190	136	190
10	160	150	250	280	240	170	90	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	150	60	60	110	156	280
11	210	180	140	210	270	250	200	90	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	30	100	280	310	189	310
12	160	100	90	140	210	130	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	80	170	180	190	180	200	152	210
13	160	160	170	180	180	140	50	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	130	180	120	130	100	110	139	180
14	100	110	120	110	90	40	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	100	130	170	140	140	150	170	121	170
15	130	180	(RF)	(RF)	(RF)	(RF)	160	80	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	137	180
16	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	( )	( )
17	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(RF)	(RF)	(RF)	190	160	170	173	190
18	210	180	210	220	160	170	240	210	160	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	40	110	210	200	190	179	240
19	180	170	190	200	170	130	80	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	60	100	120	210	146	210
20	130	150	150	160	170	180	150	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	30	30	110	100	150	126	180
21	150	150	130	150	180	190	50	60	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	50	40	30	50	130	140	107	190
22	140	130	190	310	300	270	170	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	50	100	150	180	130	177	310
23	250	230	270	230	250	190	140	100	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	30	90	100	90	164	270
24	110	100	70	60	70	80	60	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	100	130	130	150	96	150
25	170	150	180	170	200	160	70	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	90	130	170	220	155	220
26	180	170	190	180	210	170	130	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	100	120	130	140	160	157	210
27	170	180	160	190	190	130	70	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	130	150	140	130	149	190
28	150	150	180	170	160	170	150	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	140	140	170	180	160	180
29	190	230	210	250	250	240	160	80	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	201	250
30	210	370	450	410	360	300	210	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	330	450
31	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	(NV)	80	150	150	140	160	136	160
AV	165	176	194	206	213	182	144	124	193	280	260	( )	( )	( )	( )	( )	( )	100	97	95	105	136	150	168	160	( )
SD	39	56	73	70	63	61	68	61	47	0	0	( )	( )	( )	( )	( )	( )	0	34	54	48	45	46	48	40	( )

AQOUT (15 MAY 78)

STABILITY TYPE AT LEVEL 1

0=STABLE, 1=UNSTABLE
LEVEL HEIGHT : 50 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

MAY, 1978

AEROVIRONMENT INC.

****
FINAL DATA
AS OF 28/JUL/78
****

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
2	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1
3	0	0	0	0	0	0	0	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
4	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	1
6	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
8	0	0	0	0	0	0	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
9	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1
10	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
11	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1
12	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
13	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1
14	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1
15	0	0	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
16	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
17	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	0	0	0	1
18	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
19	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
20	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1
21	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1
22	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
23	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1
24	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
25	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
26	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1
27	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
28	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
29	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
30	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
31	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1
PV	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

AQOUT (15 MAY 78)

STABILITY TYPE AT LEVEL 2

0=STABLE, 1=UNSTABLE
LEVEL HEIGHT :200 METERS

C-B OIL SHALE PROJECT, COLORADO

SITE 20

MAY, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 28/JUL/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	PREV
1	0	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1
3	1	0	0	0	0	0	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
4	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(1
5	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	1
6	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
7	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
8	1	1	0	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
9	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	0	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1
12	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	1	1	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
16	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
17	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	1	1	1	1
18	0	1	0	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
26	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
29	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
30	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1
31	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	(RF)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PV	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

AQOUT (15 MAY 78)

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C-B PIBAL SOUNDING                          RUN ON 20/JUL/78

SOUNDING DATE  5- 1-78

BALLOON RELEASED 1320 CST


BASE LINE ANGLE             258.5
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0

                THEODOLITE #1             THEODOLITE #2


    TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
     .0            .0         .0          78.5        -.0      .0
     .5         121.8       42.1          80.9        3.0    14.7
    1.0         108.2       40.7          81.7        5.5    15.0
    1.5         105.7       39.0          82.6        7.1    15.0
    2.0         101.8       40.6          82.6        8.9    14.9
    2.5         103.2       44.4          83.5       11.7    14.6
    3.0         103.3       47.0          83.7       13.8    14.4
    3.5         100.3       52.1          83.0       16.1    14.7
    4.0          95.2       59.7          81.5       18.2    15.0
    4.5          90.4       68.5          79.9       21.8    14.3
    5.0          78.6       74.5          77.6       25.5    13.7
    5.5          70.0       79.0          74.9       28.7    12.5
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1       50.8       5.5
     2       48.0       6.3
     3       42.5       6.9
     4       46.6       7.4
     5       46.9       8.0
     6       72.0       8.5
     7       61.4       8.7
     8       35.8       8.6
     9       60.4       8.7
    10      101.1       9.0
    11      286.2       9.2


          HEIGHT  DIRECTION  SPEED  TEMP
           FEET    DEGREES   FT/SEC

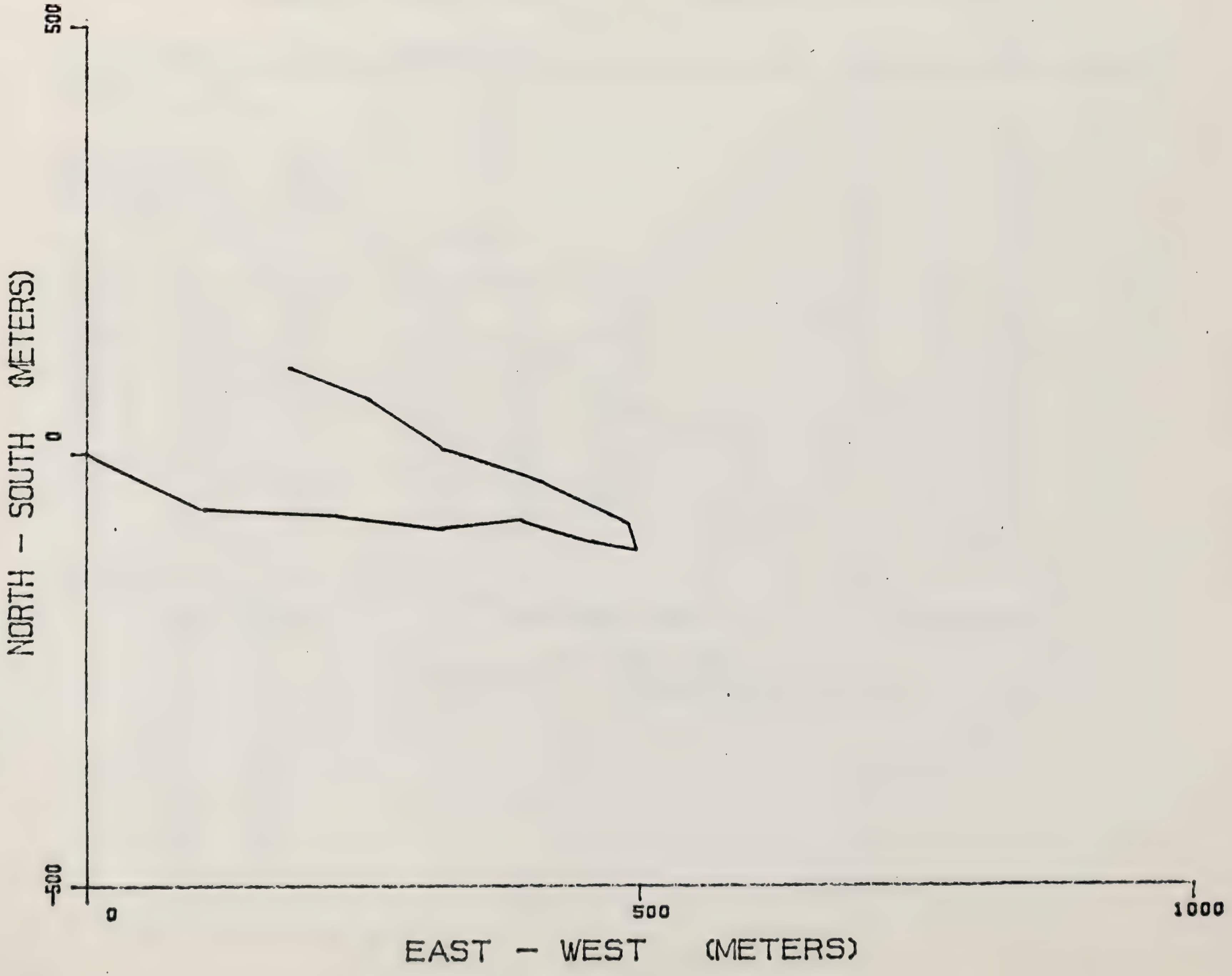
           375.      288      12.9  14.7
           672.      277      11.7  15.0
           888.      273       9.2  15.0
          1134.      277       7.6  14.9
          1515.      289       6.0  14.6
          1806.      240       2.2  14.4
          2113.      133       6.3  14.7
          2326.      118      10.4  15.0
          2703.      122      10.0  14.3
          3123.      129       9.2  13.7
```

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
114.	288	3.9	14.7
205.	277	3.6	15.0
271.	273	2.8	15.0
346.	277	2.3	14.9
462.	288	1.8	14.6
550.	240	.7	14.4
644.	133	1.9	14.7
709.	118	3.2	15.0
824.	122	3.0	14.3
952.	125	2.8	13.7

C-B SOUNDING - PLOTTED ON 20/JUL/78

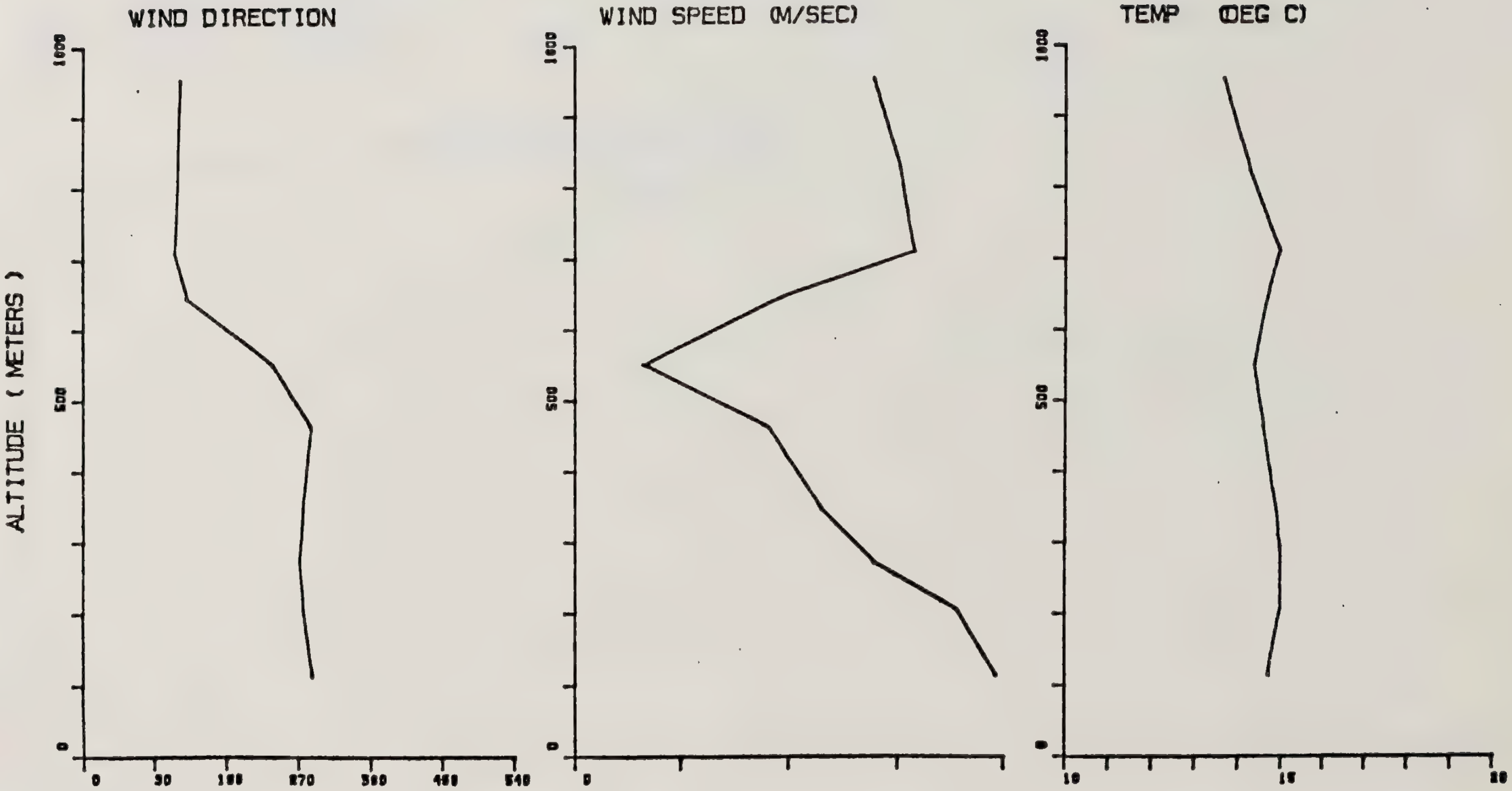
TIME 1320 DATE 5/ 1/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C—B SOUNDING — PLOTTED ON 20/JUL/78

TIME 1520 DATE 5/ 1/78



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C-B PIBAL SOUNDING                  RUN ON 20/JUL/78

SOUNDING DATE  5- 2-78

BALLOON RELEASED  720 CST

BASE LINE ANGLE             258.5
BASE LINE LENGTH (FT)      5473.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0
              THEODOLITE #1           THEODOLITE #2

    TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
     .0           .0        .0          78.5       -.0        .0
     .5        230.1      62.2          78.8       2.3       -.5
    1.0        231.8      60.1          79.2       4.6      -1.0
    1.5        234.2      59.6          79.4       7.3       5.0
    2.0        252.4      55.5          79.6      10.6       5.0
    2.5        261.8      47.1          77.3      14.3       5.0
    3.0        274.1      43.3          75.1      18.1       6.9
    3.5        274.1      44.3          69.8      22.1      10.8
    4.0        270.1      44.7          66.6      28.4      14.6
    4.5        265.2      46.7          66.0      33.6      13.9
    5.0        262.2      45.8          66.6      38.8      13.3
    5.5        255.2      45.6          69.2      43.4      12.6
    6.0        256.1      46.3          72.7      49.2      12.0
    6.5        245.3      47.4          78.0      54.4      11.3
    7.0        241.1      48.3          85.5      58.4      10.6
    7.5        239.1      48.3          92.7      61.2      10.0
    8.0        237.6      45.3          99.9      63.6       9.3

COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1       49.3       5.0
     2       68.3       5.1
     3       98.7       5.2
     4       19.2       5.3
     5       26.4       5.4
     6      160.1       5.5
     7      119.3       5.7
     8      310.3       6.0
     9      461.3       6.3
    10      463.0       6.5
    11      605.4       6.7
    12      380.3       7.1
    13      734.0       7.5
    14      718.2       8.1
    15      645.0       8.5
    16      678.3       8.6


         HEIGHT  DIRECTION  SPEED  TEMP
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 FEET    DEGREES   FT/SEC

  303.      52       4.8   -.5
  504.      58       4.4  -1.0
  732.      84       7.1   5.0
  998.      97      12.8   5.0
 1210.     109      14.1   5.0
 1400.     117      11.7   6.9
 1682.      97      11.1  10.8
 2031.      74       9.5  14.6
 2334.      59       8.3  13.9
 2544.      44       9.5  13.3
 2727.      41       8.5  12.6
 3050.      24       9.6  12.0
 3387.       8      12.1  11.3
 3738.      18       9.6  10.6
 3989.      36       9.9  10.0


HEIGHT  DIRECTION  SPEED  TEMP
METERS   DEGREES   M/SEC

   92.      52       1.5   -.5
  154.      58       1.3  -1.0
  223.      84       2.2   5.0
  304.      97       3.9   5.0
  369.     109       4.3   5.0
  427.     117       3.6   6.9
  513.      97       3.4  10.8
  619.      74       2.9  14.6
  711.      59       2.5  13.9
  776.      44       2.9  13.3
  831.      41       2.6  12.6
  930.      24       2.9  12.0
 1032.       8       3.7  11.3
 1139.      18       2.9  10.6
 1216.      36       3.0  10.0
```
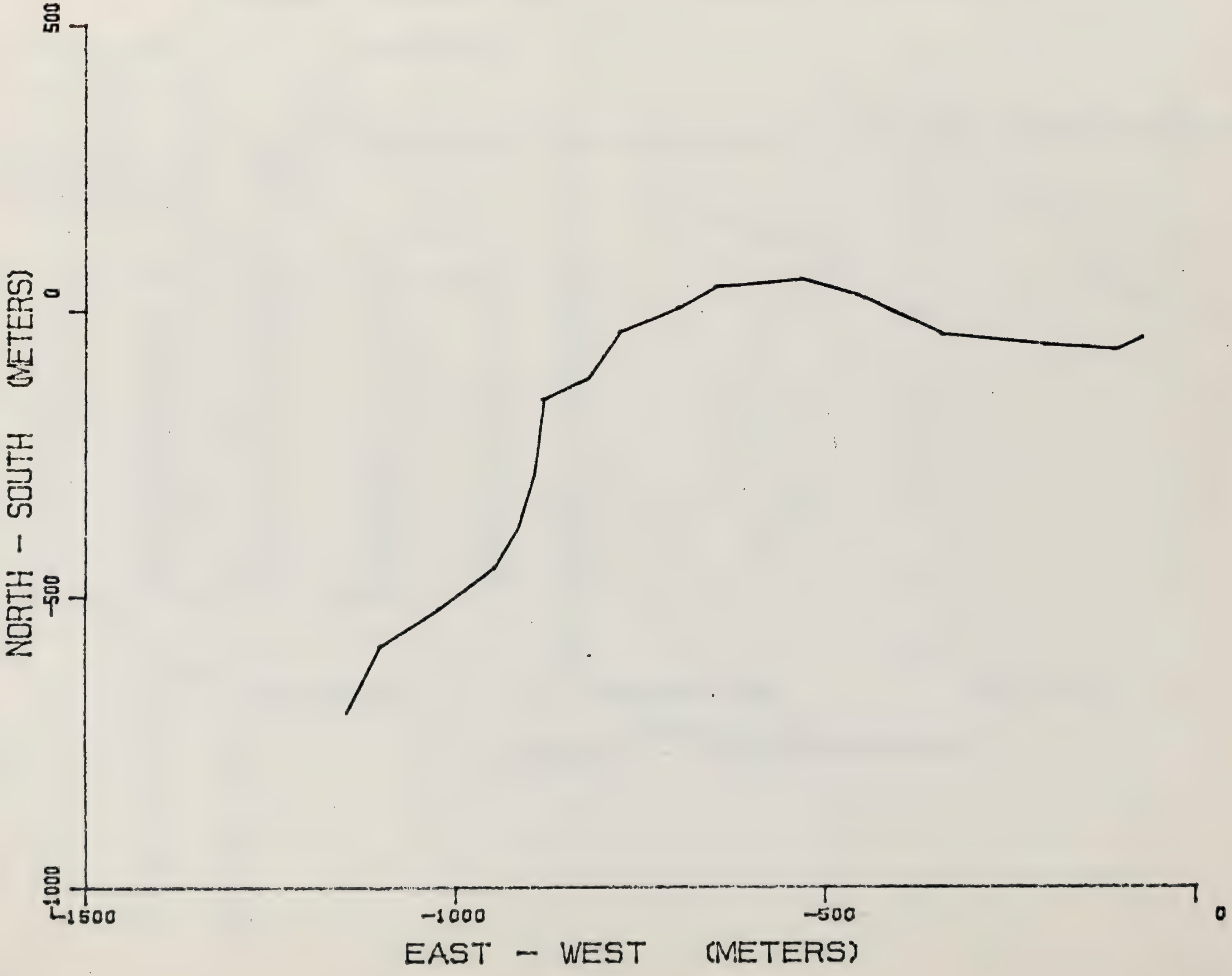

C-B SOUNDING — PLOTTED ON 20/JUL/78

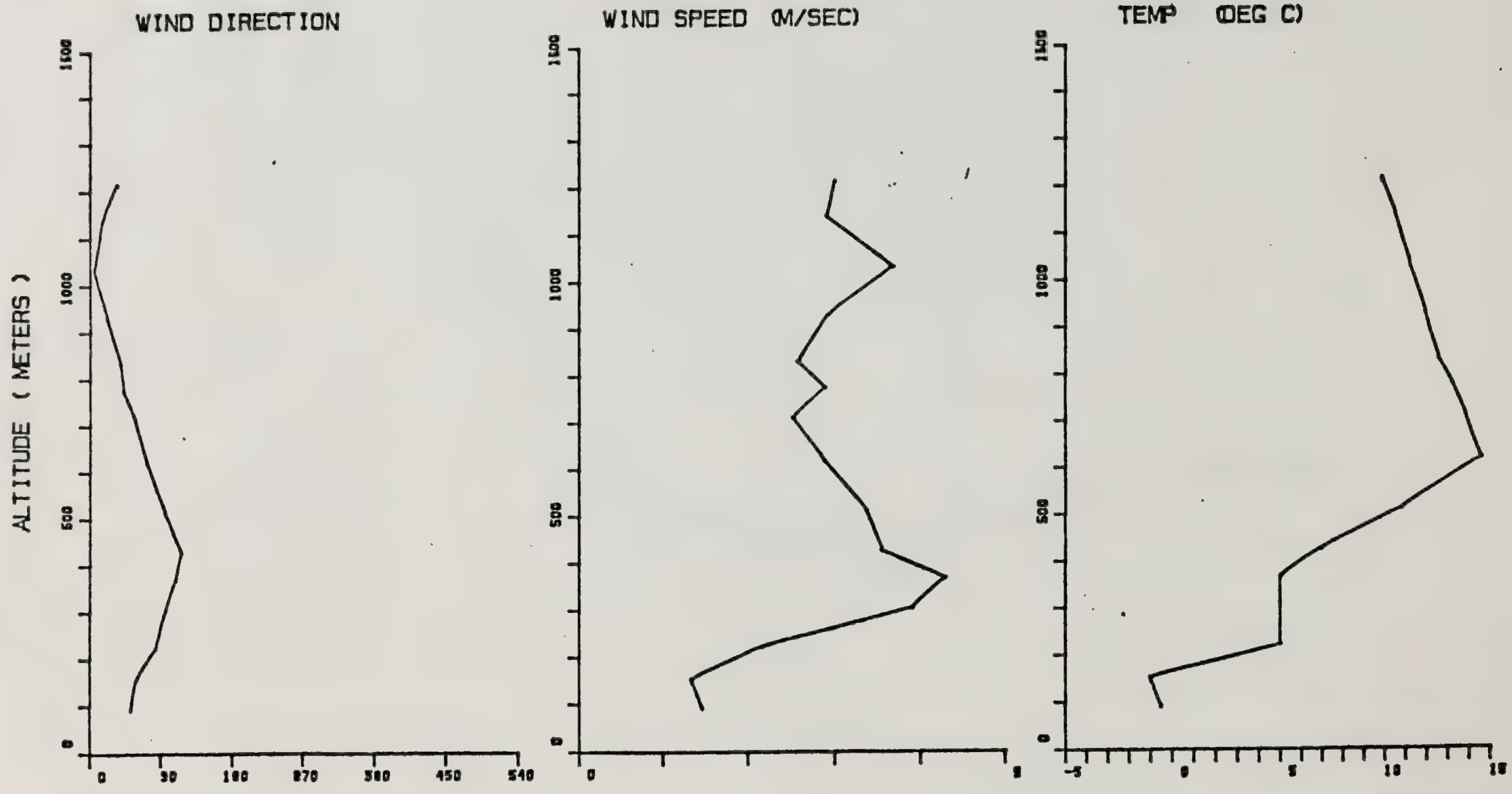
TIME 720 DATE 5/ 2/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 20/JUL/78

TIME 720 DATE 5/ 2/78



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C-R PIBAL SOUNDING                     RUN ON 20/JUL/78

SOUNDING DATE  5- 2-78

BALLOON RELEASED 1305 CST


BASE LINE ANGLE            258.5
BASE LINE LENGTH (FT)     5473.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

               THEODOLITE #1           THEODOLITE #2

    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION     TEMP
     .0           .0         .0           78.5       -.0        .0
     .5        142.2       26.8           82.8       1.9       7.9
    1.0        142.1       23.6           88.3       4.2       6.8
    1.5        144.9       24.1           92.9       6.1       6.1
    2.0        145.5       26.0           96.7       8.5       5.8
    2.5        145.4       26.4           99.6       9.9       5.4
    3.0        147.4       25.8          104.1      11.7       5.0
    3.5        148.7       26.2          108.3      13.6       4.7
    4.0        150.1       26.7          111.6      15.1       4.3
    4.5        152.7       27.7          114.9      16.9       2.8
    5.0        155.3       28.1          118.1      18.4       1.3
    5.5        157.5       28.8          121.0      20.2        .8
    6.0        160.3       29.5          125.4      22.0        .3
    6.5        162.2       30.2          128.3      23.4       -.5
    7.0        164.0       30.9          131.8      25.0      -1.5
    7.5        164.7       31.1          134.5      26.0      -2.2
    8.0        164.8       31.0          136.1      26.4      -2.9
    8.5        165.0       30.8          137.9      26.7      -3.6
    9.0        166.8       30.6          140.2      27.1      -4.3
    9.5        169.5       30.6          143.7      27.9      -5.0
   10.0        170.9       31.0          145.2      28.7      -5.6
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO       ERROR

      1       42.0       5.5
      2       37.5       6.4
      3        6.7       7.2
      4        6.5       8.1
      5       33.9       8.9
      6       22.2      10.0
      7       37.8      11.2
      8       56.2      12.2
      9       62.5      13.0
     10       43.1      13.8
     11        5.0      14.6
     12       22.9      15.9
     13       35.7      16.8
     14       46.2      18.2
     15       39.6      19.7
     16       31.0      20.9
     17       28.6      22.2
     18       10.9      22.9
     19        5.3      24.0
```

20 33.2 24.4

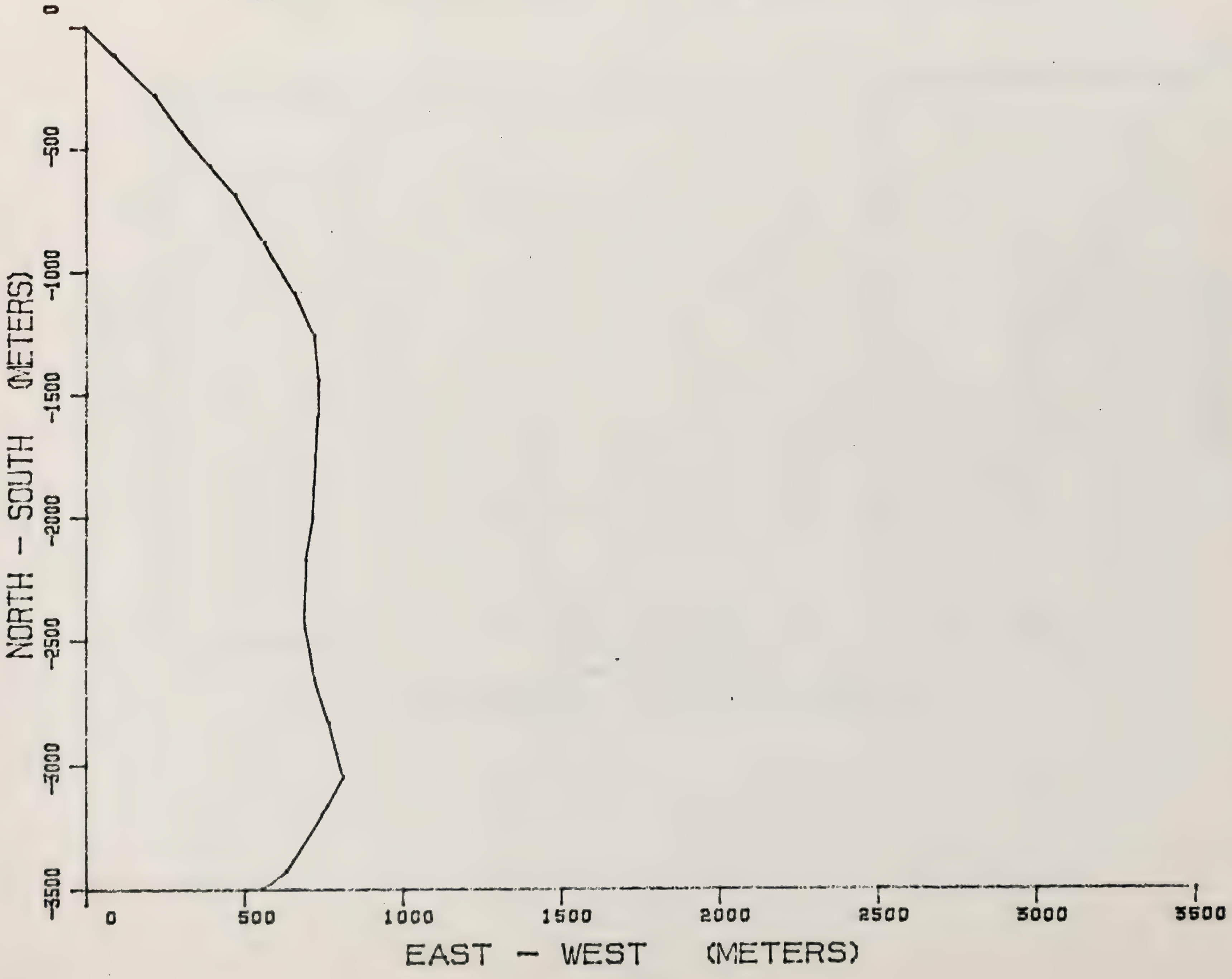
HEIGHT FEET	DIRECTION DEGREES	SPEED FT/SEC	TEMP
256.	323	19.5	7.9
519.	327	20.5	6.8
776.	330	18.4	6.1
1105.	327	16.7	5.8
1345.	332	19.5	5.4
1654.	335	24.3	5.0
2041.	338	22.5	4.7
2377.	348	19.0	4.3
2739.	359	18.1	2.8
3051.	1	17.7	1.3
3421.	2	22.4	.8
3935.	3	23.0	.3
4336.	3	22.2	-.5
4894.	357	26.1	-1.5
5411.	350	23.3	-2.2
5758.	348	22.1	-2.9
6143.	2	20.0	-3.6
6357.	25	23.0	-4.3
6755.	32	19.3	-5.0

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
78.	323	5.9	7.9
158.	327	6.2	6.8
236.	330	5.6	6.1
337.	327	5.1	5.8
410.	332	5.9	5.4
504.	335	7.4	5.0
622.	338	6.9	4.7
725.	348	5.8	4.3
835.	359	5.5	2.8
930.	1	5.4	1.3
1043.	2	6.8	.8
1199.	3	7.0	.3
1322.	3	6.8	-.5
1492.	357	8.0	-1.5
1649.	350	7.1	-2.2
1755.	348	6.7	-2.9
1872.	2	6.1	-3.6
1938.	25	7.0	-4.3
2059.	32	5.9	-5.0

C-B SOUNDING — PLOTTED ON 20/JUL/78

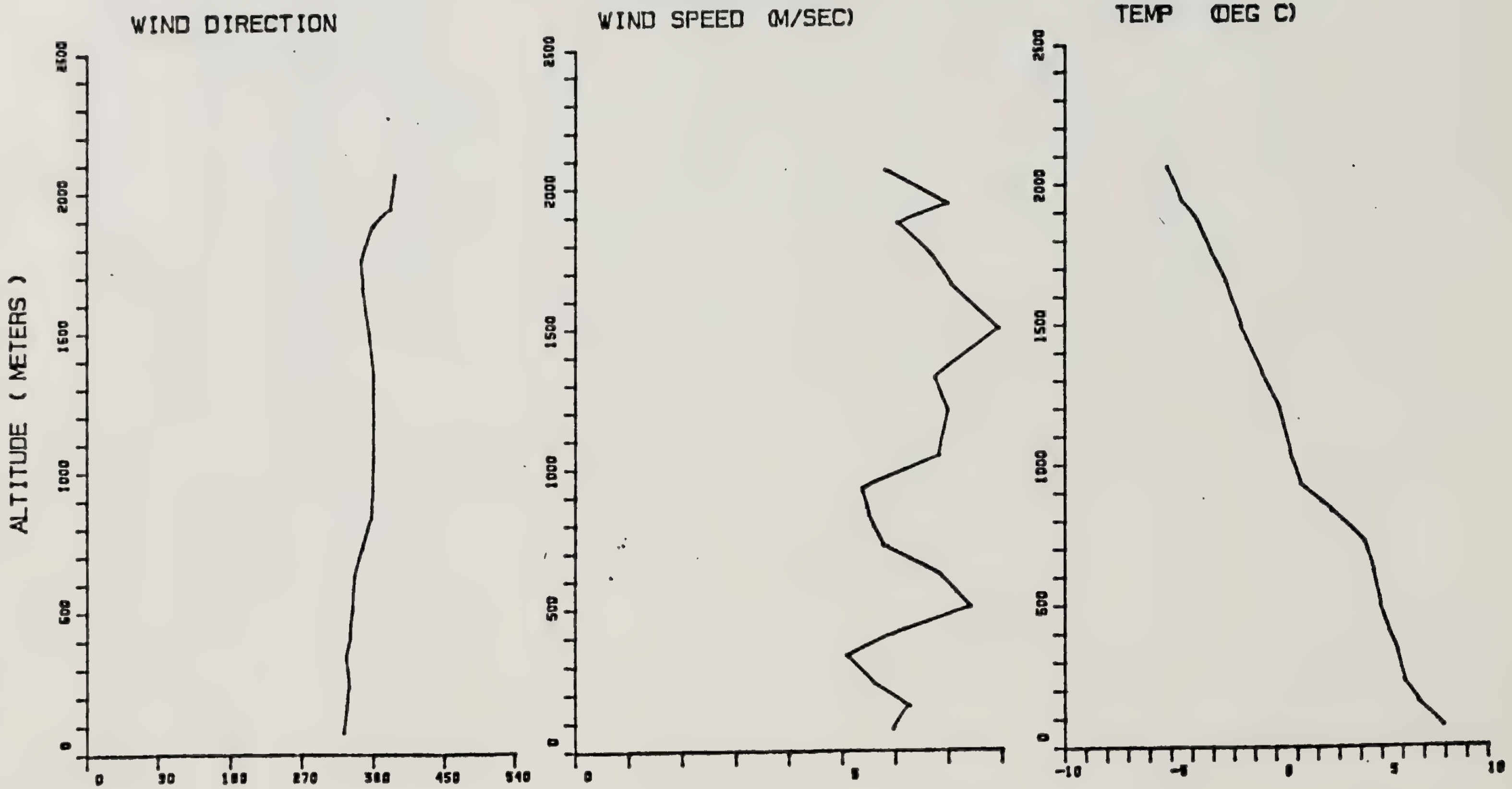
TIME 1305 DATE 5/ 2/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 20/JUL/78

TIME 1305 DATE 5/ 2/78



C-b Sounding

Time 0820   Date 5/4/78

No good data

C-b Sounding

Time 1330   Date 5/4/78

No good Data

C-b Sounding

Morning Sounding   Date 5/5/78

No data taken due to snow

C-b Sounding

Time 1430   Date 5/5/78

Insufficient data

C-b Sounding

Time 0655   Date 5/8/78

Insufficient Data

C-b Sounding

Time 1400 Date 5/8/78

Insufficient Data

C-b Sounding

Morning Sounding   Date: 5/10/78

Balloon was lost on launch.

C-b Sounding

Time 1400 Date 5/10/78

Insufficient Data

C-b Sounding

Time 0720   Date 5/11/78

Insufficient Data

C-b Sounding

Time 0545 Date 5/12/78

Insufficient Data

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C-B PIBAL SOUNDING                      RUN ON 20/JUL/78

SOUNDING DATE  5-12-78

BALLOON RELEASED 1400 CST

BASE LINE ANGLE            239.5
BASE LINE LENGTH (FT)     5426.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

                THEODOLITE #1             THEODOLITE #2

   TIME       AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
     .0            .0         .0          59.5        -.0      .0
     .5          97.8       31.6          67.2        2.7    13.0
    1.0         108.4       25.8          67.7        5.3    12.1
    1.5         111.4       21.0          71.9        6.0    11.1
    2.0         113.0       20.8          75.4        7.6    10.2
    2.5         113.1       22.6          78.4       10.3     9.3
    3.0         108.0       24.0          78.5       11.4     8.1
    3.5         104.8       25.4          79.3       13.3     6.8
    4.0         101.5       25.4          79.5       14.1     5.5
    4.5          99.6       25.6          80.2       15.2     4.2
    5.0          97.4       26.3          79.8       16.3     2.9
    5.5          95.5       26.3          79.8       16.7     1.6
    6.0          94.2       25.9          79.9       17.0      .3
    6.5          95.0       25.7          81.4       17.5    -1.0
    7.0          95.6       25.5          82.9       18.1    -1.9
    7.5          96.8       25.0          84.5       18.4    -2.8
    8.0          97.7       24.8          85.5       18.7    -4.1
    8.5          99.0       25.1          87.4       19.5    -5.6
    9.0         100.2       25.3          89.2       20.1    -7.2
    9.5         101.6       24.3          91.1       19.7    -8.7
   10.0         103.0       23.4          92.9       19.5    -10.
   10.5         104.0       22.2          94.8       18.9    -11.
   11.0         105.4       21.7          96.8       18.0    -12.

COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1     309.6        6.4
     2      90.9        6.8
     3      92.0        7.7
     4     116.2        8.7
     5     186.8        9.9
     6     144.1       11.0
     7     159.6       12.5
     8     149.7       13.9
     9     155.7       15.5
    10     195.3       16.7
    11     153.2       18.1
    12     158.3       19.5
    13     142.2       21.2
    14     139.5       23.5
    15     172.7       25.3
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16      223.4      26.4
17      215.7      29.0
18      185.3      31.7
19      170.0      34.2
20      233.3      36.9
21      210.6      41.3
22      157.1      43.8


      HEIGHT  DIRECTION  SPEED  TEMP
       FEET    DEGREES   FT/SEC

        567.     289      20.9  13.0
        624.     304      15.6  12.1
        746.     298      21.0  11.1
        983.     296      22.0  10.2
       1394.     278      20.6   9.3
       1699.     264      22.5   8.1
       2163.     265      25.3   6.8
       2498.     265      27.3   5.5
       2936.     262      24.6   4.2
       3317.     256      22.4   2.9
       3650.     260      25.1   1.6
       3951.     273      27.8    .3
       4356.     281      35.6  -1.0
       4892.     284      37.6  -1.9
       5280.     291      27.7  -2.8
       5527.     292      33.5  -4.1
       6241.     291      47.3  -5.6
       6952.     294      49.3  -7.2
       7301.     297      51.8  -8.7
       7699.     294      69.2 -10.2
       8294.     297      68.5 -11.3


      HEIGHT  DIRECTION  SPEED  TEMP
      METERS   DEGREES   M/SEC

        173.     289       6.4  13.0
        190.     304       4.8  12.1
        227.     298       6.4  11.1
        300.     296       6.7  10.2
        425.     278       6.3   9.3
        518.     264       6.9   8.1
        659.     265       7.7   6.8
        761.     265       8.3   5.5
        895.     262       7.5   4.2
       1011.     256       6.8   2.9
       1112.     260       7.7   1.6
       1204.     273       8.5    .3
       1328.     281      10.9  -1.0
       1491.     284      11.5  -1.9
       1609.     291       8.4  -2.8
       1685.     292      10.2  -4.1
       1902.     291      14.4  -5.6
       2119.     294      15.0  -7.2
```

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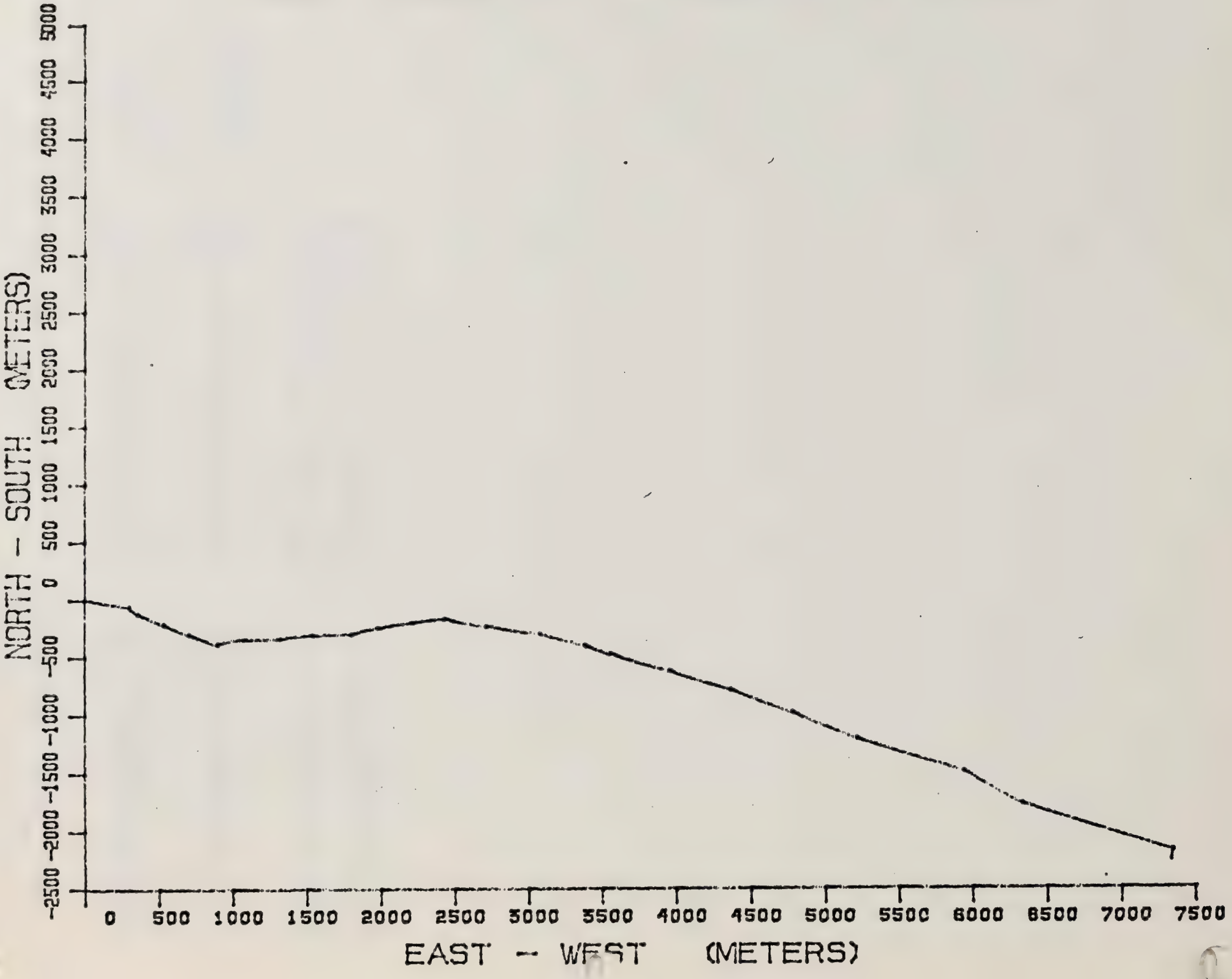
2225.     297      15.8  -8.7
2347.     294      21.1 -10.2
2528.     297      20.9 -11.3
```

C-B SOUNDING - PLOTTED ON 20/JUL/78

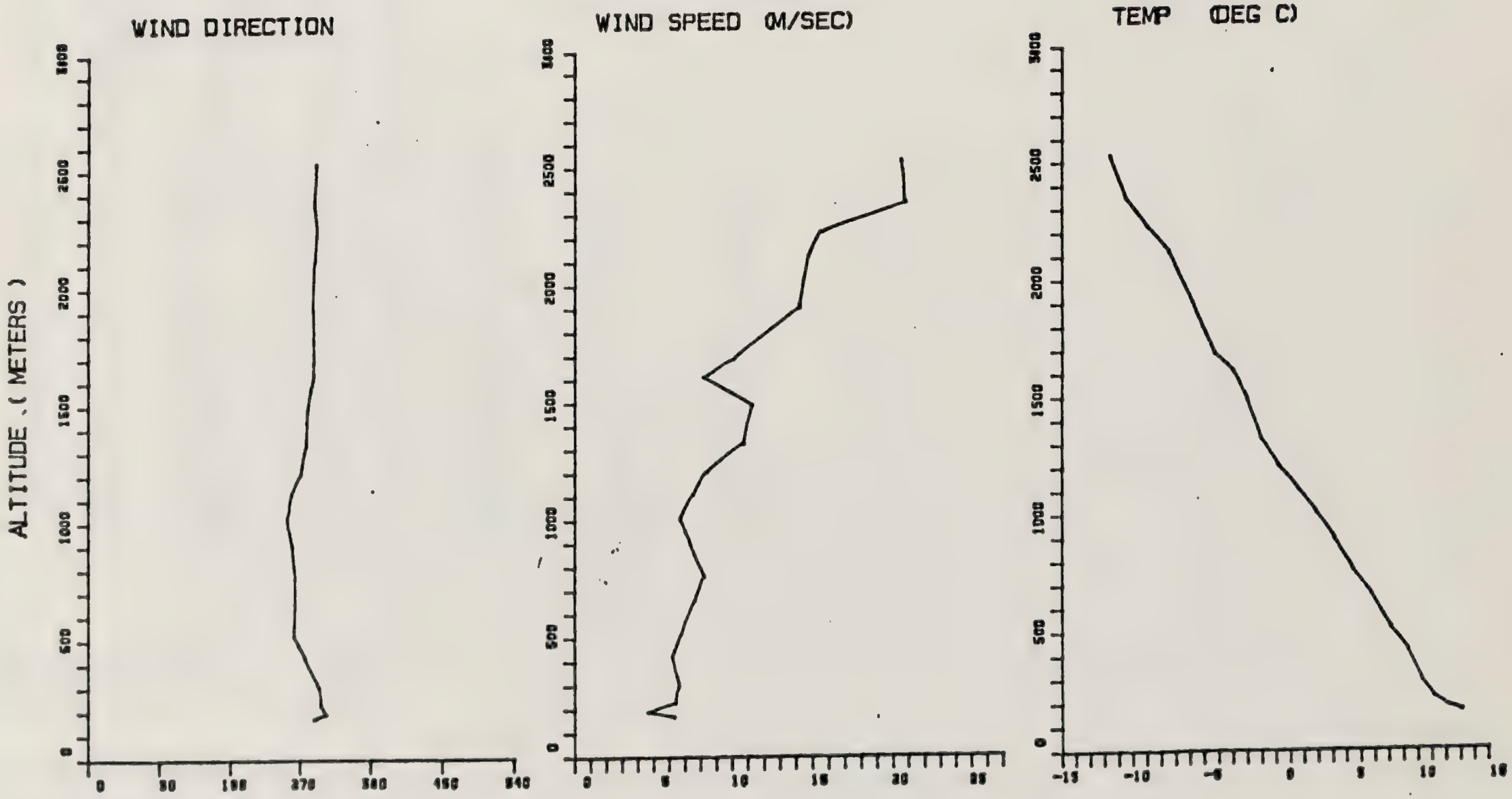
TIME 1400 DATE 5/12/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 20/JUL/78

TIME.1400 DATE 5/12/78



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C-8 PIBAL SOUNDING                    RUN ON 21/JUL/78

SOUNDING DATE  5-15-78

BALLOON RELEASED  645 CST

BASE LINE ANGLE            239,5
BASE LINE LENGTH (FT)     5426,5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

              THEODOLITE #1            THEODOLITE #2

   TIME      AZIMUTH  ELEVATION      AZIMUTH  ELEVATION    TEMP
    .0          .0         .0          59.5      -.0         .0
    .5       346.2       29.7          55.9      2.8       19.3
   1.0         1.2       20.5          48.8      4.9       20.4
   1.5         5.5       17.6          44.4      6.3       20.8
   2.0        10.4       16.5          39.4      7.5       20.4
   2.5        13.4       16.0          38.4      7.9       20.1
   3.0        18.0       15.7          37.7      8.7       19.7
   3.5        21.1       15.7          37.6      9.3       19.0
   4.0        23.5       15.5          37.9      9.6       18.2
   4.5        25.3       15.4          38.0      9.9       17.5
   5.0        27.1       15.4          38.3     10.2       16.8
   5.5        28.7       15.3          38.6     10.5       16.0
   6.0        30.3       15.2          39.0     10.7       15.3
   6.5        31.3       15.1          39.4     10.8       14.6
   7.0        32.4       15.0          39.6     10.9       13.8
   7.5        33.1       14.8          39.8     11.0       13.1
   8.0        33.7       14.7          39.8     11.1       12.4
   8.5        34.1       14.6          39.8     11.1       11.8
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO      ERROR

    1     141.0       5.3
    2     115.4       6.8
    3     147.2       8.3
    4      69.2      11.0
    5      54.1      12.4
    6      47.6      14.9
    7      36.5      17.0
    8      37.5      18.7
    9      26.4      20.6
   10       9.4      22.5
   11      13.1      24.6
   12       5.5      26.9
   13        .5      28.1
   14      42.6      30.5
   15      19.0      32.4
   16      46.3      34.9
   17      82.1      36.7

          HEIGHT  DIRECTION  SPEED  TEMP
           FEET    DEGREES   FT/SEC
```

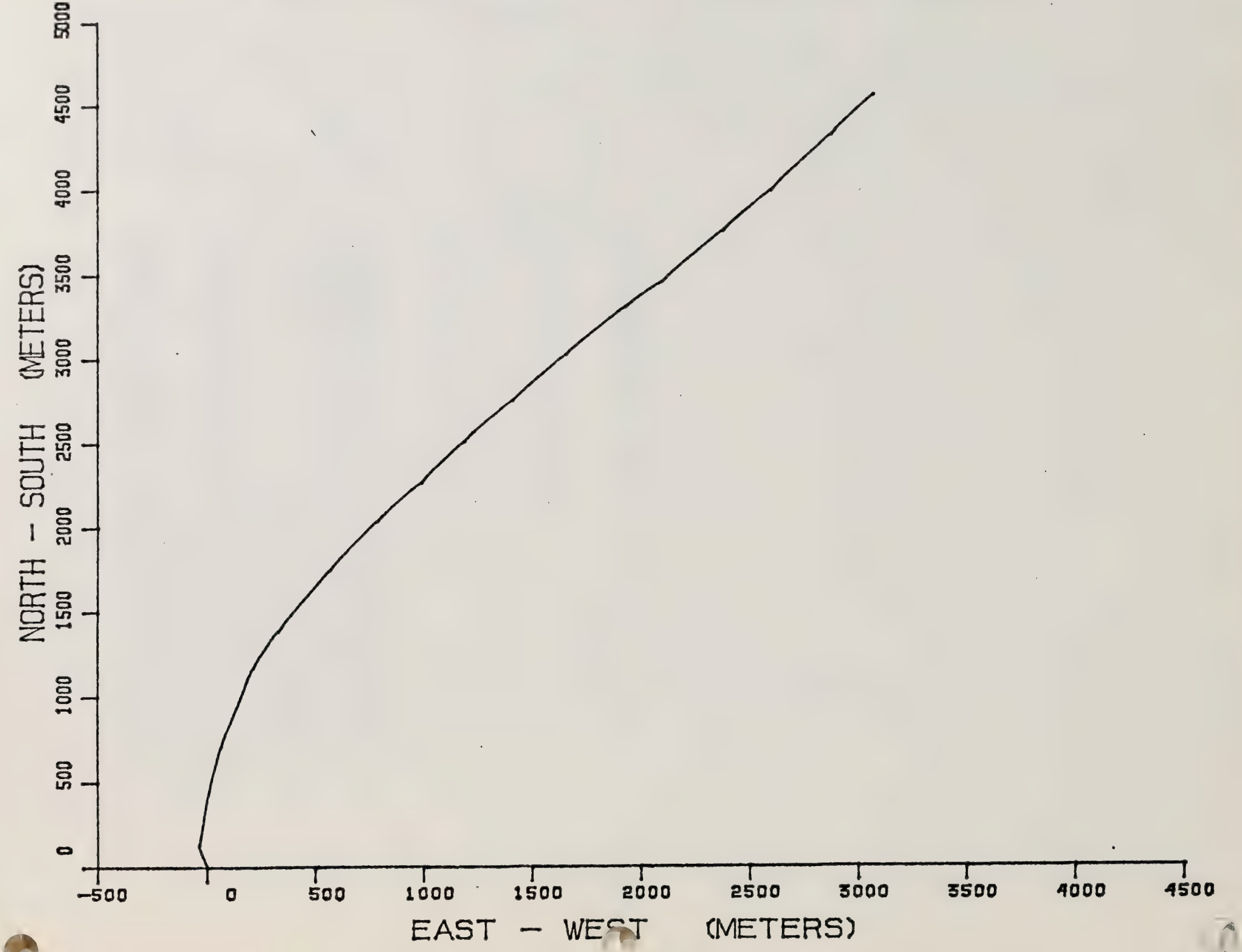
261.	181	23.6	19.3
554.	189	31.9	20.4
775.	195	41.7	20.8
1175.	201	39.7	20.4
1356.	211	37.2	20.1
1711.	214	43.8	19.7
2030.	218	36.2	19.0
2258.	220	33.5	18.2
2515.	220	35.2	17.5
2792.	222	38.0	16.8
3095.	223	41.7	16.0
3407.	225	33.7	15.3
3572.	224	34.6	14.6
3886.	222	40.0	13.8
4113.	221	40.8	13.1
4439.	220	39.9	12.4

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
80.	181	7.2	19.3
169.	189	9.7	20.4
236.	195	12.7	20.8
358.	201	12.1	20.4
413.	211	11.3	20.1
522.	214	13.4	19.7
619.	218	11.0	19.0
688.	220	10.2	18.2
767.	220	10.7	17.5
851.	222	11.6	16.8
943.	223	12.7	16.0
1038.	225	10.3	15.3
1089.	224	10.5	14.6
1185.	222	12.2	13.8
1250.	221	12.4	13.1
1353.	220	12.2	12.4

C-B SOUNDING – PLOTTED ON 21/JUL/78

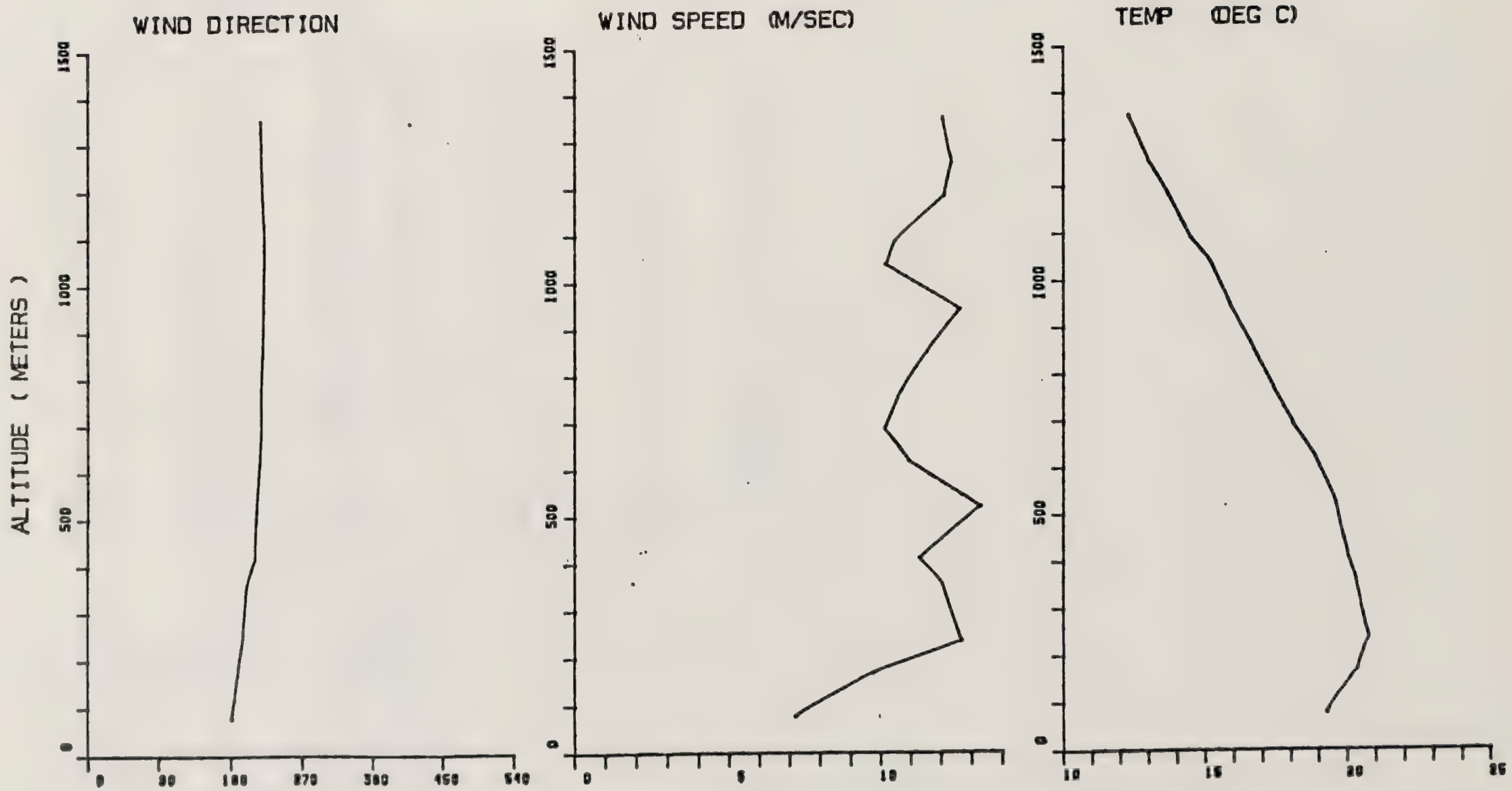
TIME 645 DATE 5/15/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 21/JUL/78

TIME 845 DATE 5/15/78



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C-B PIBAL SOUNDING                    RUN ON 20/JUL/78

SOUNDING DATE  5-15-78

BALLOON RELEASED 1400 CST


BASE LINE ANGLE            239.5
BASE LINE LENGTH (FT)     5926.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

                THEODOLITE #1              THEODOLITE #2

    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION     TEMP
     .0            .0         .0           59.5       -.0         .0
     .5         345.3       20.5           50.6       3.3       23.6
    1.0         346.2       20.1           42.2       6.4       22.8
    1.5         348.1       18.3           36.2       7.4       22.1
    2.0         352.8       16.8           32.5       8.4       21.3
    2.5         357.2       16.7           30.8       8.7       20.6
    3.0         359.3       14.0           28.6       7.8       20.0
    3.5            .0       12.2           25.4       7.6       19.6
    4.0         359.4       11.9           22.4       7.9       19.3
    4.5         359.2       11.7           20.3       8.2       18.9
    5.0         359.2       12.0           18.9       8.7       18.5
    5.5         359.4       12.1           17.5       9.0       18.0
    6.0         359.3       12.5           14.9       9.5       17.5
    6.5         358.6       13.4           14.3      10.5       17.0
    7.0         358.8       14.2           13.8      11.3       16.5
    7.5         359.4       14.8           13.6      12.0       16.0
    8.0            .2       15.3           13.5      12.4       15.5
    8.5           1.1       15.8           13.5      13.0       14.5
    9.0           2.0       16.2           13.8      13.4       13.0
    9.5           2.8       16.8           13.7      14.1       11.4
   10.0           3.0       17.1           13.2      14.4        9.6
   10.5           3.1       17.1           12.5      14.6        7.9
   11.0           3.5       16.7           12.3      14.3        6.7
COMPARISON OF REAL ERRUR WITH 0.1 DEG. ERROR

   TIME      RHO       ERROR

      1      80.0        5.9
      2      84.9        7.4
      3      41.2        8.8
      4      83.3       10.4
      5      14.9       12.0
      6       1.6       13.6
      7      20.3       15.9
      8       5.1       18.1
      9      13.4       20.0
     10      12.6       21.7
     11       7.1       23.8
     12     106.7       28.0
     13      40.7       28.3
     14      41.5       29.7
     15      20.1       31.4
     16      78.1       33.3
     17      70.5       35.6
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18      80.6       37.2
19      80.9       40.1
20     143.4       42.9
21     154.7       46.7
22     197.0       49.6

     HEIGHT  DIRECTION  SPEED   TEMP
      FEET    DEGREES   FT/SEC

       369.     167      32.9   23.6
       745.     170      32.5   22.8
       971.     180      32.3   22.1
      1202.     191      31.8   21.3
      1420.     192      31.4   20.6
      1419.     185      40.0   20.0
      1544.     180      44.8   19.6
      1768.     177      40.6   19.3
      1980.     179      35.0   18.9
      2234.     180      35.8   18.5
      2502.     180      60.2   18.0
      3076.     175      42.1   17.5
      3365.     172      14.8   17.0
      3770.     186      28.0   16.5
      4184.     190      32.6   16.0
      4585.     192      38.2   15.5
      5090.     196      34.7   14.5
      5453.     195      40.5   13.0
      6141.     189      51.0   11.4
      6682.     184      59.7    9.6
      7324.     186      62.4    7.9

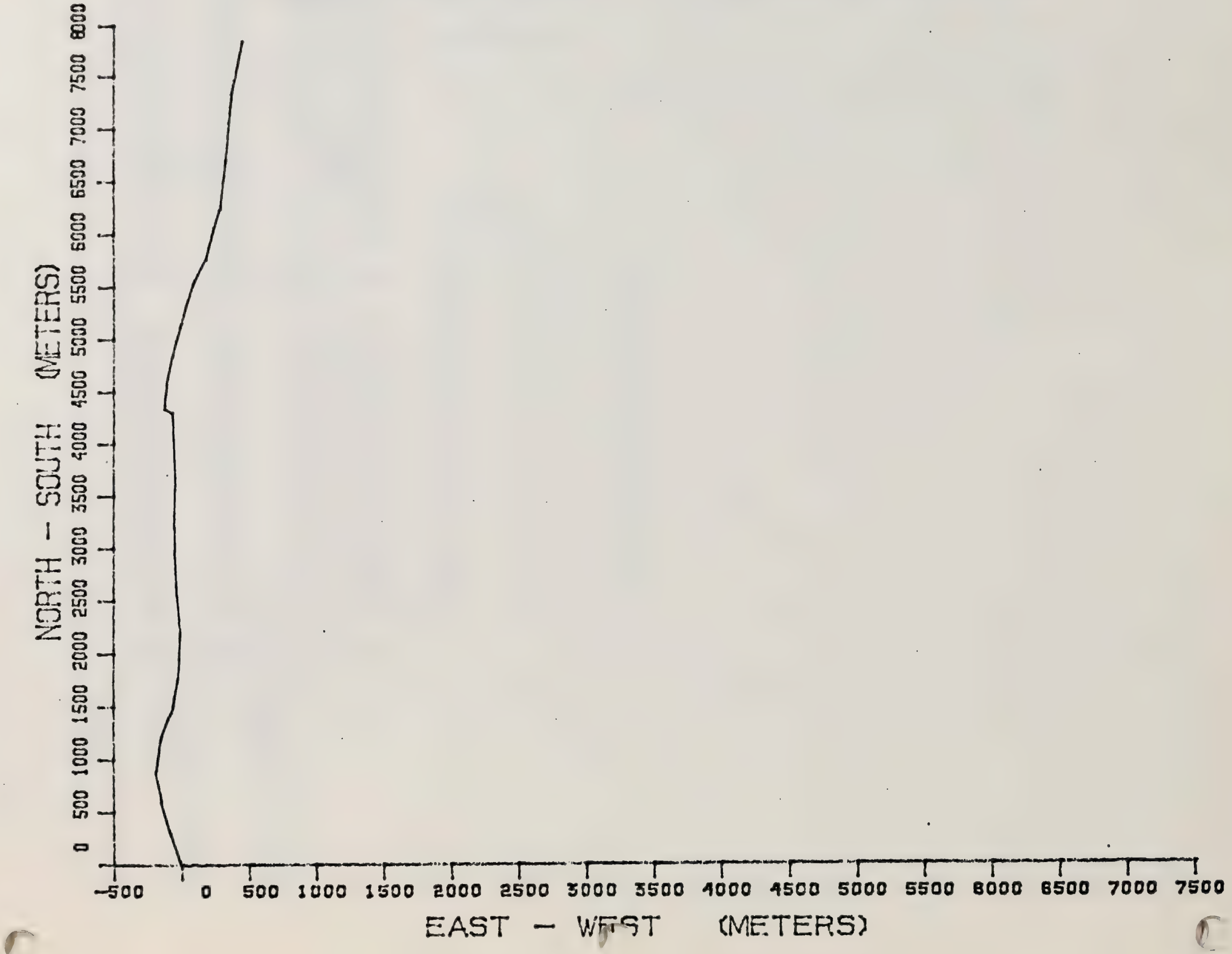
     HEIGHT  DIRECTION  SPEED   TEMP
     METERS   DEGREES   M/SEC

       112.     167      10.0   23.6
       227.     170       9.9   22.8
       296.     180       9.8   22.1
       366.     191       9.7   21.3
       433.     192       9.6   20.6
       433.     185      12.2   20.0
       470.     180      13.7   19.6
       539.     177      12.4   19.3
       604.     179      10.7   18.9
       681.     180      10.9   18.5
       762.     180      18.3   18.0
       938.     175      12.8   17.5
      1026.     172       4.5   17.0
      1149.     186       8.5   16.5
      1275.     190       9.9   16.0
      1398.     192      11.6   15.5
      1551.     196      10.6   14.5
      1662.     195      12.3   13.0
      1872.     189      15.5   11.4
      2037.     184      18.2    9.6
      2232.     186      19.0    7.9
```

C--B SOUNDING — PLOTTED ON 20/JUL/78

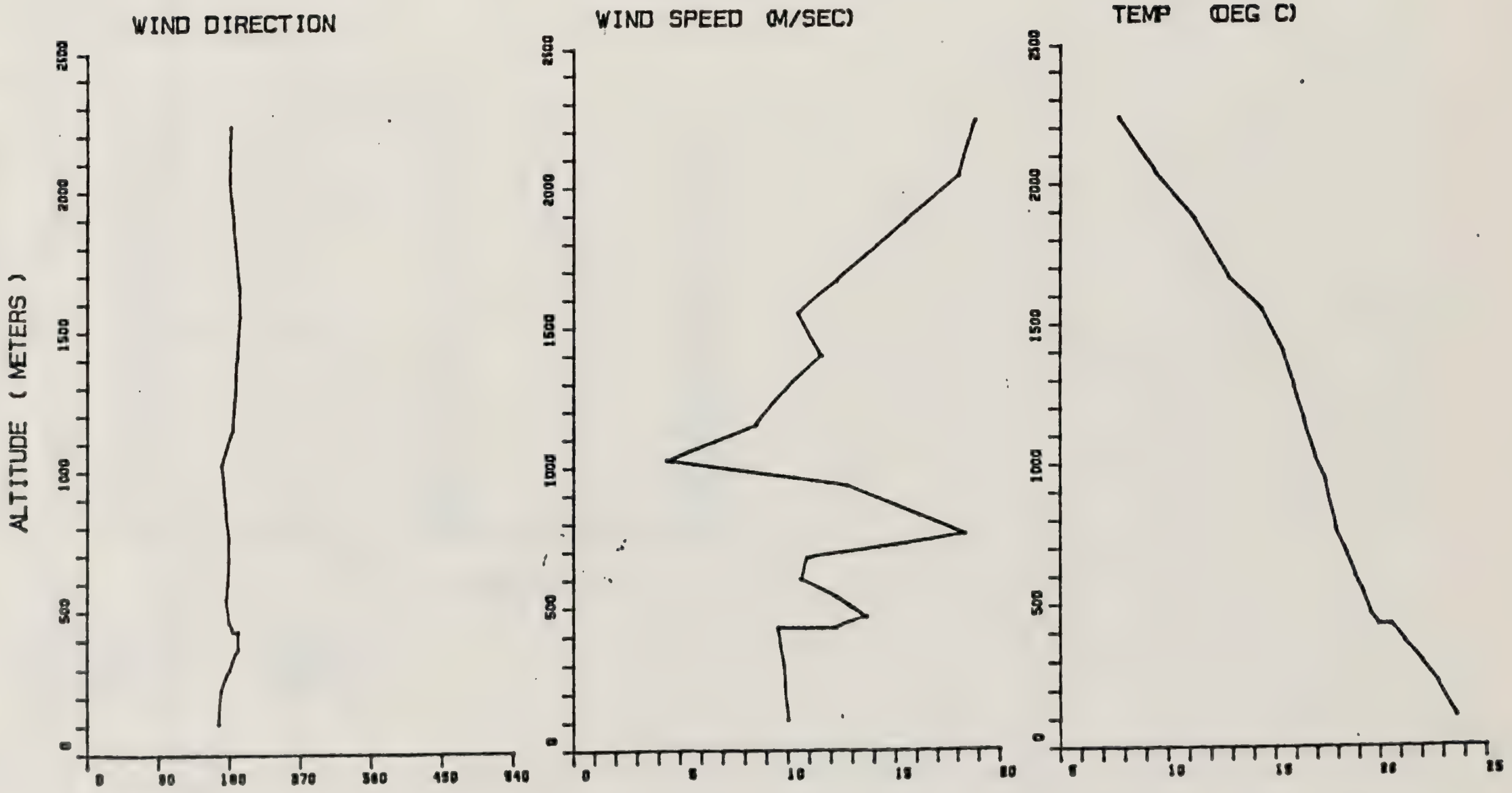
TIME 1400 DATE 5/15/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 20/JUL/78

TIME 1400 DATE 5/15/78



```
C-8 PIBAL SOUNDING                      RUN ON 20/JUL/78

SOUNDING DATE  5-16-78

BALLOON RELEASED  650 CST


BASE LINE ANGLE            239.5
BASE LINE LENGTH (FT)     5426.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

               THEODOLITE #1           THEODOLITE #2


   TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
    .0           .0         .0          59.5       -.0        .0
    .5        342.0       44.0          55.3       3.4      16.3
   1.0        343.4       30.7          48.0       6.8      15.8
   1.5        346.9       22.7          37.8       8.8      15.4
   2.0        348.6       18.6          30.1       9.7      14.9
   2.5        349.2       16.8          23.6      10.4      14.5
   3.0        350.0       15.8          19.2      10.9      14.0
   3.5        350.6       15.4          15.7      11.3      13.0
   4.0        351.0       14.8          13.1      11.5      12.1
   4.5        351.1       14.6          10.7      11.5      11.1
   5.0        351.2       14.0           8.7      11.7      10.2
   5.5        351.6       13.8           7.4      11.5       9.2
   6.0        351.9       13.5           6.4      11.4       8.3
   6.5        352.2       13.0           5.5      11.2       7.3
   7.0        352.3       12.8           4.6      11.0       6.8
   7.5        352.6       12.5           4.1      10.7       6.3
   8.0        353.1       11.8           3.5      10.6       5.7
   8.5        353.6       11.6           3.3      10.2       5.2
   9.0        354.1       11.2           3.2       9.8       4.7
   9.5        354.8       10.7           3.2       9.5       4.5
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1       19.8        5.4
     2       71.8        6.4
     3       47.1        8.4
     4       65.7       10.6
     5       56.4       13.2
     6       67.5       15.8
     7       44.0       18.7
     8       67.9       21.4
     9       10.0       24.4
    10       82.6       27.6
    11        5.7       30.6
    12       19.9       33.4
    13        3.0       36.5
    14       68.0       39.4
    15      131.8       42.1
    16       47.6       46.7
    17      100.9       49.8
    18      158.8       52.7
    19      116.4       57.0
```

```
HEIGHT  DIRECTION  SPEED  TEMP
 FEET    DEGREES   FT/SEC

  416.     164      20.5  16.3
  747.     168      36.3  15.8
 1104.     171      47.0  15.4
 1385.     172      50.9  14.9
 1729.     172      53.0  14.5
 2071.     174      53.7  14.0
 2463.     174      54.3  13.0
 2798.     173      54.9  12.1
 3165.     172      59.1  11.1
 3535.     174      59.3  10.2
 3859.     175      55.1   9.2
 4149.     176      56.1   8.3
 4408.     175      57.9   7.3
 4691.     175      53.6   6.8
 4881.     178      69.5   6.3
 5236.     179      73.3   5.7
 5427.     181      57.8   5.2
 5545.     182      69.3   4.7

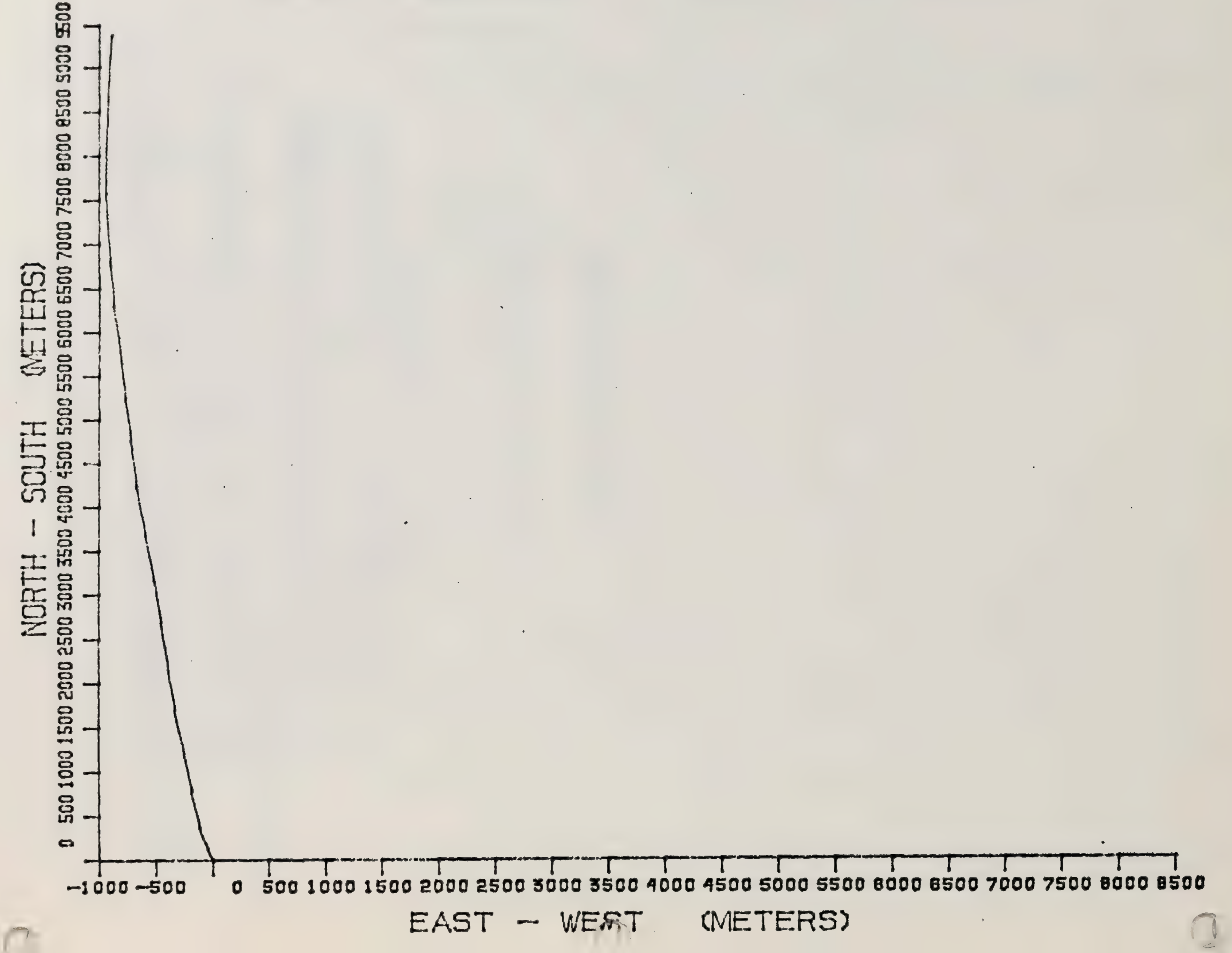
HEIGHT  DIRECTION  SPEED  TEMP
METERS   DEGREES   M/SEC

  127.     164       6.2  16.3
  228.     168      11.1  15.8
  336.     171      14.3  15.4
  422.     172      15.5  14.9
  527.     172      16.2  14.5
  631.     174      16.4  14.0
  751.     174      16.6  13.0
  853.     173      16.7  12.1
  965.     172      18.0  11.1
 1077.     174      18.1  10.2
 1176.     175      16.8   9.2
 1265.     176      17.1   8.3
 1343.     175      17.6   7.3
 1430.     175      16.3   6.8
 1488.     178      21.2   6.3
 1596.     179      22.3   5.7
 1654.     181      17.6   5.2
 1690.     182      21.1   4.7
```

C-B SOUNDING -- PLOTTED ON 20/JUL/78

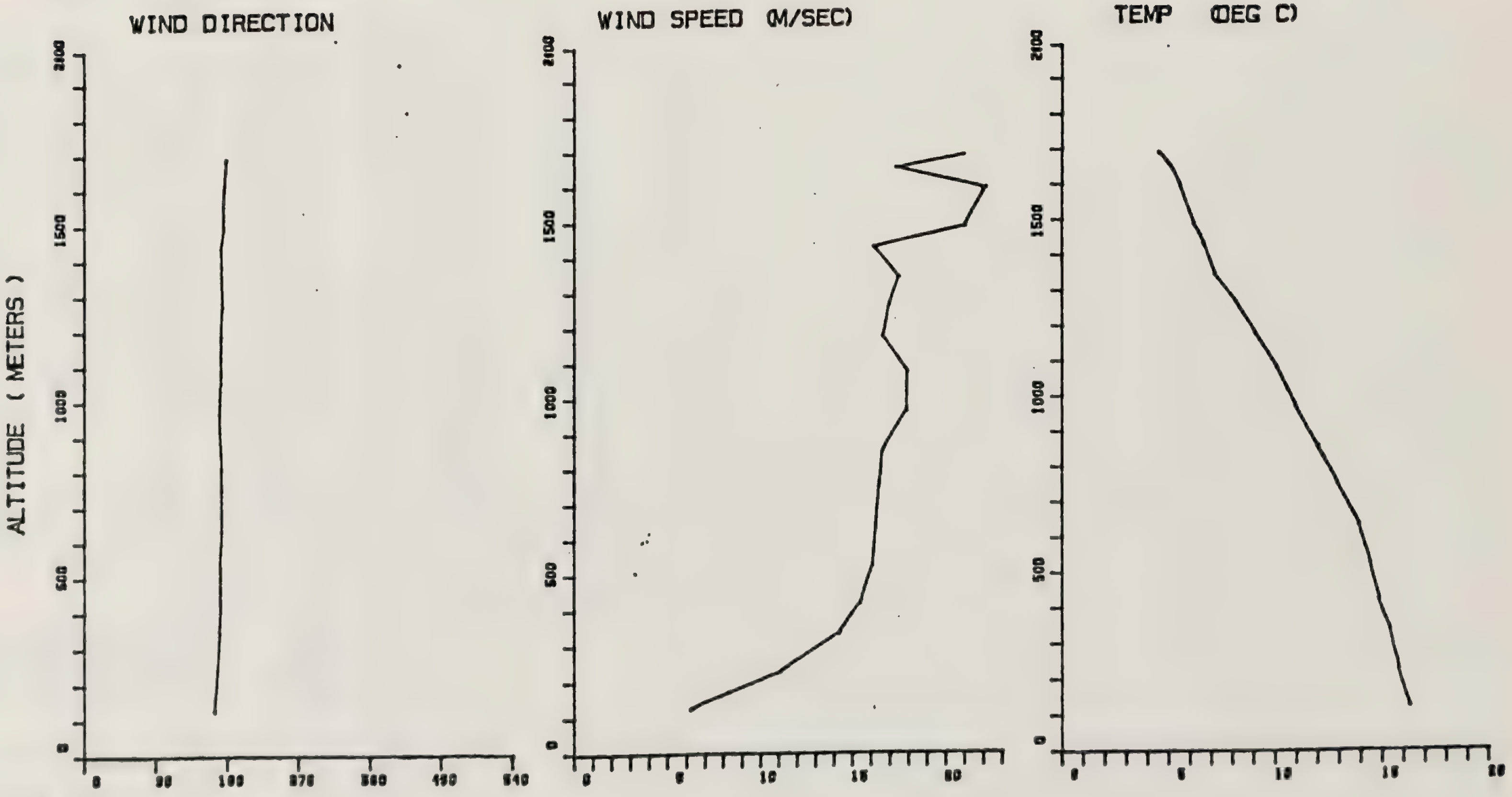
TIME 650 DATE 5/16/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 20/JUL/78

TIME 850 DATE 5/18/78



```
C-8 PIBAL SOUNDING                       RUN ON 21/JUL/78

SOUNDING DATE  5-16-78

BALLOON RELEASED 1400 CST

BASE LINE ANGLE            239.5
BASE LINE LENGTH (FT)     5426.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

             THEODOLITE #1            THEODOLITE #2

   TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION     TEMP
    .0          .0        .0           59.5       -.0         .0
    .5       359.8      28.7           52.3       4.5        21.5
   1.0         1.0      21.6           50.4       5.8        20.3
   1.5         3.4      22.4           44.3       6.9        19.2
   2.0         5.1      22.2           38.2       7.8        18.0
   2.5         6.3      23.2           34.1       8.6        15.9
   3.0         8.2      25.3           31.3       7.7        13.8
   3.5         9.3      26.7           29.4       7.8        11.6
   4.0         9.2      27.5           26.6       7.9         9.5
   4.5         9.5      28.7           22.8       8.3         7.4
   5.0         8.6      29.2           20.1       8.6         5.3
   5.5         7.5      29.5           18.3       9.1         3.0
   6.0         6.5      30.0           17.4       9.4          .7
   6.5         7.0      29.4           15.1      11.0        -1.0
   7.0         6.8      28.3           14.4      11.4        -1.9
   7.5         6.5      27.3           13.9      12.1        -2.9
   8.0         6.4      26.7           13.3      12.5        -4.0
   8.5         6.0      25.9           13.3      13.1        -5.2
   9.0         5.7      25.6           13.5      13.7        -6.4
   9.5         5.5      25.0           13.7      14.4        -7.7
  10.0         4.8      24.6           13.4      14.7        -8.9
  10.5         4.5      24.2           12.4      14.9        -10.
  11.0         4.1      23.9           12.3      14.7        -11.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

    1       80.6        6.1
    2      247.9        6.6
    3       32.9        8.1
    4      232.9       10.2
    5      528.2       12.0
    6     1138.4       12.5
    7     1495.7       12.8
    8     1881.3       13.1
    9     2451.8       13.0
   10     2771.9       12.8
   11     2927.9       13.0
   12     2985.3       13.0
   13     3238.6       14.0
   14     3254.2       15.2
   15     3200.9       17.3
   16     3228.3       18.4
   17     3053.7       21.2
```

```
18    2863.3      23.3
19    2604.4      26.5
20    2438.3      28.3
21    2521.0      30.3
22    2456.8      30.4

      HEIGHT  DIRECTION  SPEED   TEMP
       FEET    DEGREES   FT/SEC

        509.     181      20.7   21.5
        539.     185      21.5   20.3
        912.     186      36.6   19.2
       1327.     187      37.8   18.0
       1728.     187      22.2   15.9
       1882.     183       7.8   13.8
       2013.     161       6.7   11.6
       2125.     126       7.1    9.5
       2207.      91       7.6    7.4
       2228.     105       6.7    5.3
       2313.     117       5.1    3.0
       2342.     166      10.6     .7
       2652.     180      21.6   -1.0
       2865.     183      30.0   -1.9
       3252.     183      29.3   -2.9
       3474.     185      35.6   -4.0
       3995.     187      43.8   -5.2
       4448.     188      47.5   -6.4
       5083.     185      45.0   -7.7
       5430.     180      34.6   -8.9
       5780.     176      20.1  -10.1

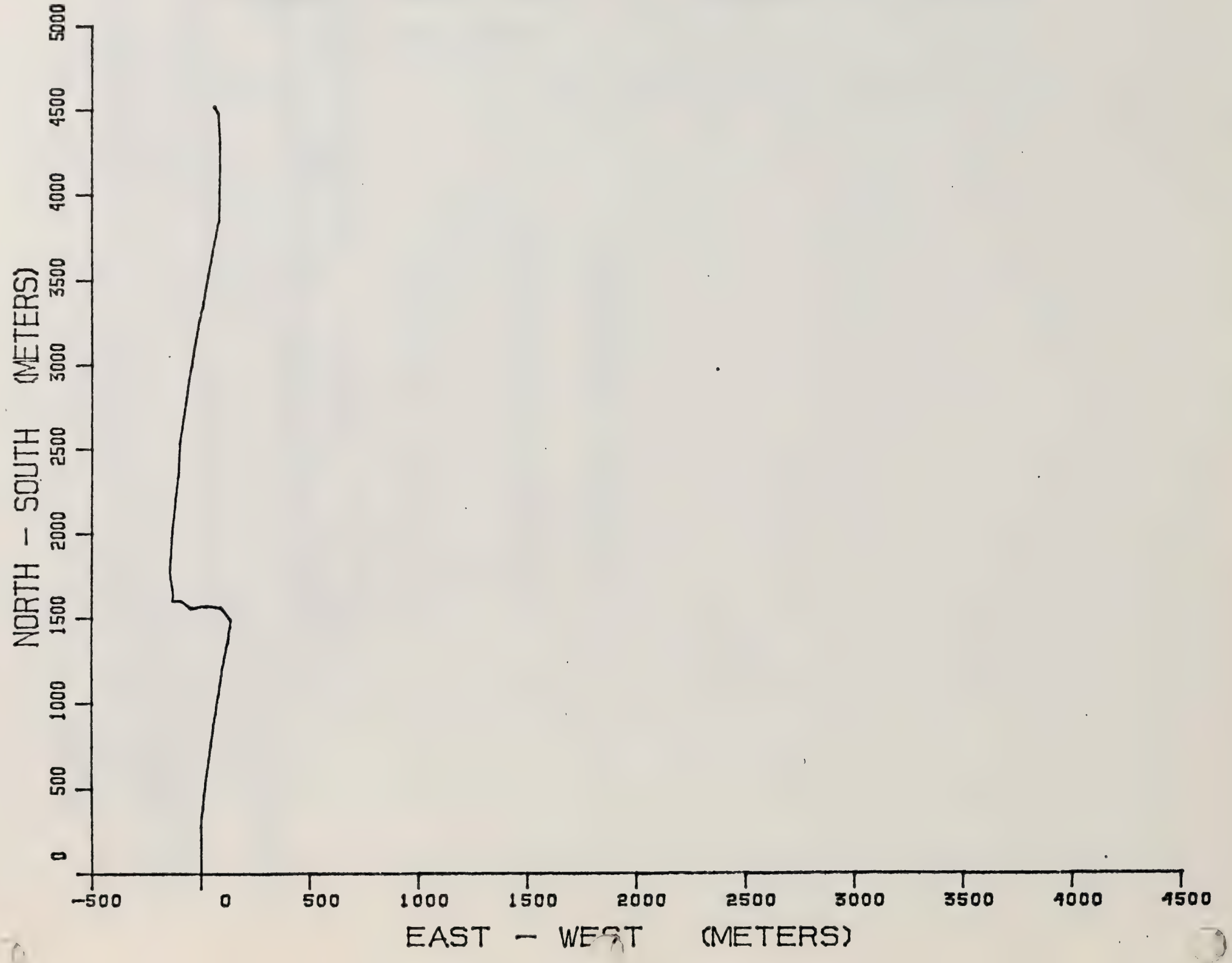
      HEIGHT  DIRECTION  SPEED   TEMP
      METERS   DEGREES   M/SEC

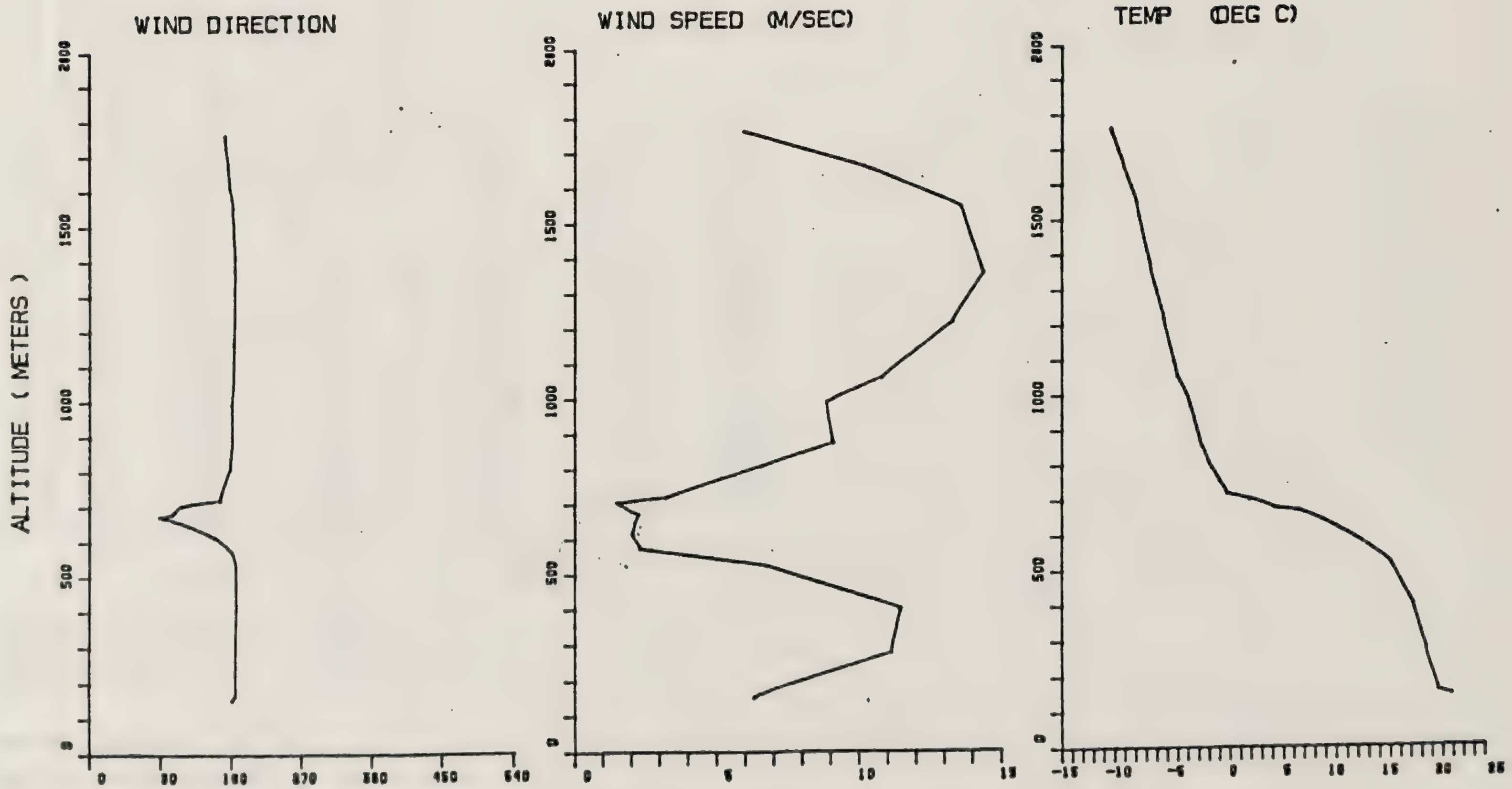
        155.     181       6.3   21.5
        164.     185       6.6   20.3
        278.     186      11.2   19.2
        405.     187      11.5   18.0
        527.     187       6.8   15.9
        574.     183       2.4   13.8
        614.     161       2.0   11.6
        648.     126       2.2    9.5
        673.      91       2.3    7.4
        679.     105       2.0    5.3
        705.     117       1.6    3.0
        720.     166       3.2     .7
        808.     180       6.6   -1.0
        873.     183       9.1   -1.9
        991.     193       8.9   -2.9
       1059.     185      10.9   -4.0
       1218.     187      13.4   -5.2
       1356.     188      14.5   -6.4
       1549.     185      13.7   -7.7
       1655.     180      10.5   -8.9
       1762.     176       6.1  -10.1
```

C–B SOUNDING – PLOTTED ON 21/JUL/78

TIME 1400 DATE 5/16/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN





C-B SOUNDING — PLOTTED ON 21/JUL/78

TIME 1400 DATE 5/18/78

```
C-B PIBAL SOUNDING                    RUN ON 20/JUL/78

SOUNDING DATE  5-18-78

BALLOON RELEASED  645 CST

BASE LINE ANGLE            239.5
BASE LINE LENGTH (FT)     5426.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

                THEODOLITE #1            THEODOLITE #2

    TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION    TEMP
     .0           .0        .0           59.5       -.0         .0
     .5         12.1      16.5           53.4       2.6        4.0
    1.0         16.1      16.5           50.5       4.2        3.0
    1.5         19.7      17.0           47.4       6.1        2.0
    2.0         22.7      18.3           45.6       7.6        1.0
    2.5         25.3      18.0           44.8       8.4         .0
    3.0         28.4      18.0           44.2       9.5        -.8
    3.5         30.5      18.1           44.0      10.2       -1.5
    4.0         31.7      18.0           43.8      10.7       -2.3
    4.5         32.7      18.2           43.8      11.2       -3.0
    5.0         33.6      18.3           43.7      11.7       -3.8
    5.5         34.8      18.3           43.9      11.9       -4.6
    6.0         36.2      18.5           44.2      12.4       -5.3
    6.5         37.3      18.6           44.8      12.8       -6.1
    7.0         38.4      19.0           45.3      13.2       -6.9
    7.5         39.2      18.9           45.5      13.4       -7.6
    8.0         39.9      18.7           45.6      13.6       -7.7
    8.5         40.6      18.5           45.7      13.6       -7.1
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO      ERROR

     1    107.7       6.2
     2    128.5       7.3
     3    136.3       9.0
     4     93.5      10.6
     5     94.4      12.1
     6     96.7      14.2
     7     80.7      16.0
     8     86.4      17.5
     9     87.9      18.8
    10     90.0      20.3
    11     54.5      21.6
    12     36.5      23.5
    13     88.8      24.5
    14     71.3      25.5
    15     64.8      27.1
    16     64.2      29.3
    17      7.9      31.3

          HEIGHT  DIRECTION  SPEED  TEMP
           FEET    DEGREES   FT/SEC
```

```
   290.      196       26.4   4.0
   494.      204       27.3   3.0
   817.      208       31.5   2.0
  1170.      213       28.7   1.0
  1411.      218       33.7    .0
  1796.      220       36.5   -.8
  2116.      221       30.5  -1.5
  2376.      222       25.2  -2.3
  2620.      222       25.2  -3.0
  2913.      225       26.4  -3.8
  3137.      228       29.8  -4.6
  3509.      232       26.8  -5.3
  3724.      240       18.4  -6.1
  3974.      233       23.9  -6.9
  4253.      228       35.3  -7.6
  4613.      227       38.1  -7.7

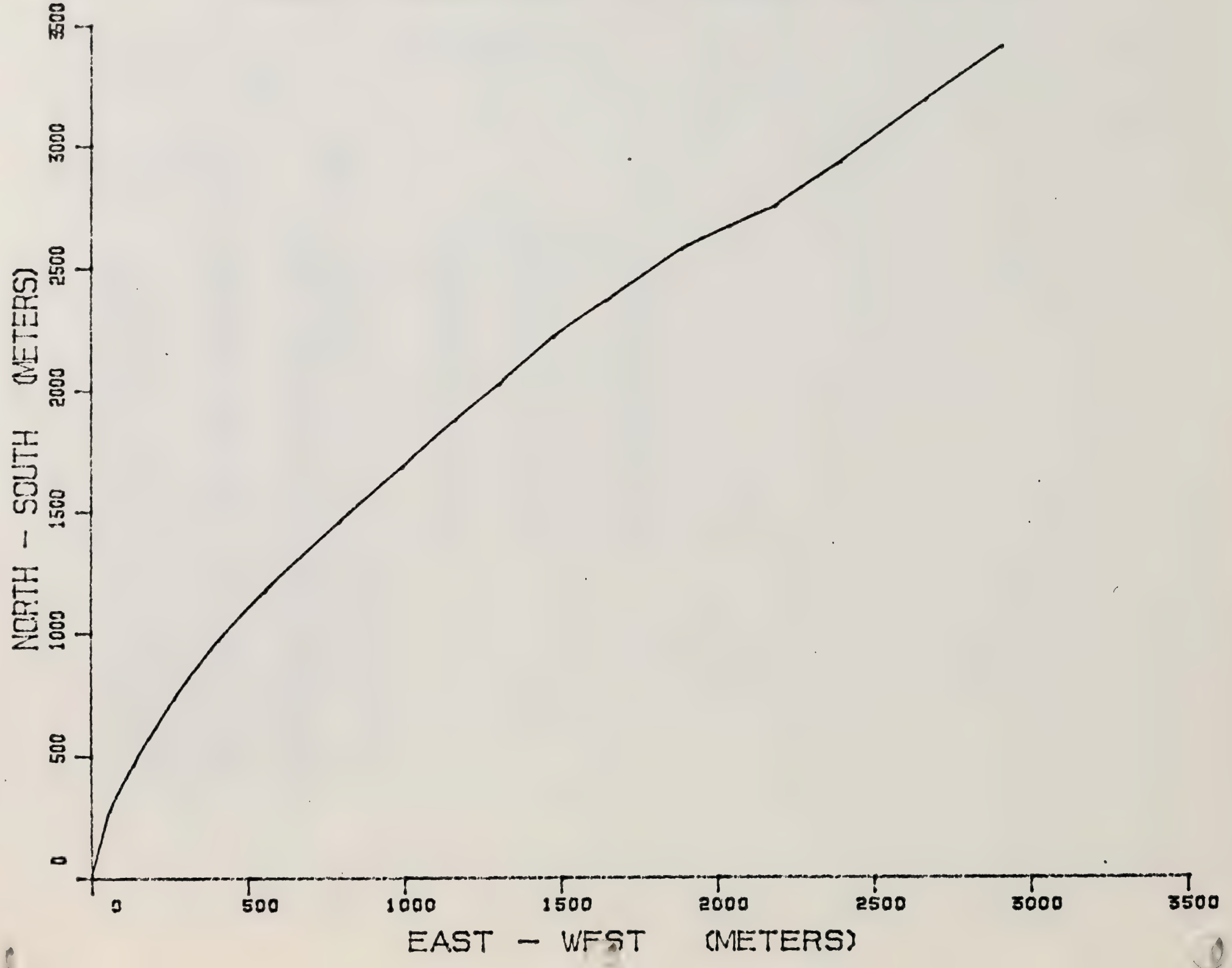
 HEIGHT  DIRECTION  SPEED  TEMP
 METERS   DEGREES   M/SEC

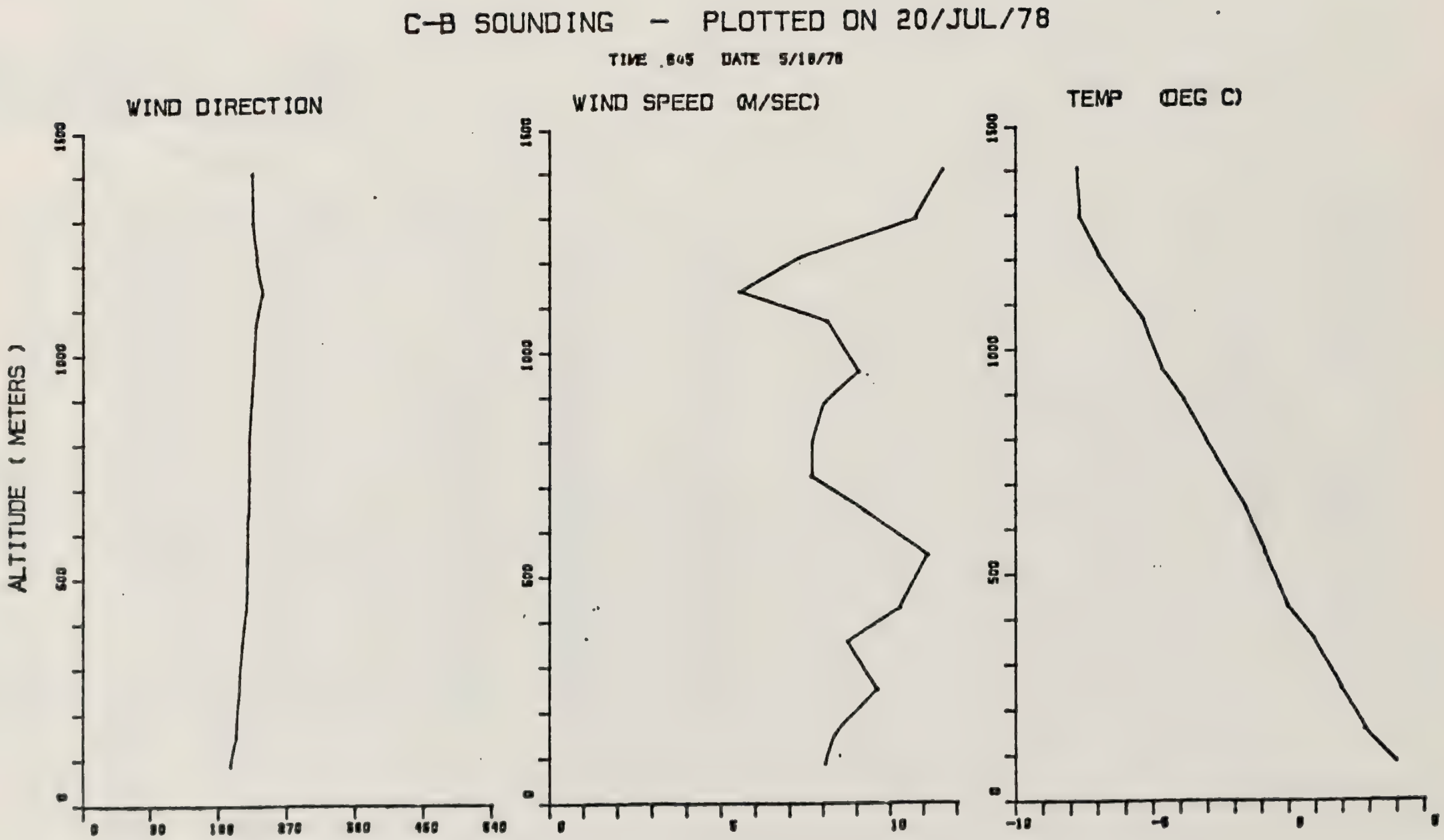
    89.      196        8.0   4.0
   151.      204        8.3   3.0
   249.      208        9.6   2.0
   357.      213        8.7   1.0
   430.      218       10.3    .0
   548.      220       11.1   -.8
   645.      221        9.3  -1.5
   724.      222        7.7  -2.3
   799.      222        7.7  -3.0
   888.      225        8.0  -3.8
   956.      228        9.1  -4.6
  1070.      232        8.2  -5.3
  1135.      240        5.6  -6.1
  1211.      233        7.3  -6.9
  1296.      228       10.8  -7.6
  1406.      227       11.6  -7.7
```

C-B SOUNDING - PLOTTED ON 20/JUL/78

TIME 645 DATE 5/18/78

PIBAL TRAJECTORY - LAUNCH AT ORIGIN




C–B SOUNDING – PLOTTED ON 20/JUL/78
TIME .845 DATE 5/18/78
WIND DIRECTION
WIND SPEED (M/SEC)
TEMP (DEG C)
ALTITUDE (METERS)
0
500
1000
1500
0
90
180
270
360
450
540
0
5
10
-10
-5
0
5

C-b Sounding

Time 1430 Date 5/18/78

Insufficient Data

```
C-B PIBAL SOUNDING                    RUN ON 20/JUL/78

SOUNDING DATE  5-19-78

BALLOON RELEASED  650 CST

BASE LINE ANGLE            239.5
BASE LINE LENGTH (FT)     5426.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

               THEODOLITE #1          THEODOLITE #2

   TIME      AZIMUTH  ELEVATION      AZIMUTH  ELEVATION    TEMP
     .0           .0         .0         59.5        -.0      .0
     .5        279.7       31.5         58.0        1.7     3.3
    1.0        287.6       46.0         56.7        3.9     5.8
    1.5        292.3       43.3         54.6        5.9     6.9
    2.0        297.0       43.5         52.0        8.4     6.7
    2.5        300.0       42.1         49.1       10.8     6.5
    3.0        298.5       41.5         46.4       13.2     6.4
    3.5        292.7       41.7         44.3       16.3     6.2
    4.0        287.6       42.3         43.0       18.9     6.0
    4.5        282.5       43.6         42.4       22.1     1.5
    5.0        277.6       45.8         42.6       25.6    -3.0
    5.5        276.2       48.3         43.5       27.8    -5.2
    6.0        277.6       53.6         45.0       28.0    -5.2
    6.5        285.8       59.6         45.7       29.6    -5.2
    7.0        295.9       66.5         47.8       29.6    -5.2
    7.5        320.3       73.8         50.5       29.0    -5.2
    8.0        355.9       75.4         52.2       28.4    -4.5
    8.5         28.3       71.8         54.4       27.6    -3.8
    9.0         44.5       65.1         56.0       26.9    -3.1
    9.5         50.2       57.7         56.7       25.9    -2.4
   10.0         51.3       53.0         56.7       25.5    -1.7
   10.5         52.0       49.0         56.5       25.0    -1.0
   11.0         52.3       45.6         56.4       24.7     -.3
   11.5         52.9       43.5         56.4       24.4     -.3
   12.0         53.1       41.7         56.3       24.2     -.8
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      90.7        4.8
     2      59.0        5.0
     3      72.0        5.2
     4      69.1        5.4
     5      80.9        5.7
     6      71.6        5.9
     7      69.0        6.1
     8      49.7        6.2
     9      47.1        6.3
    10      40.3        6.4
    11      65.1        6.5
    12       8.9        6.7
    13      49.1        7.2
    14      47.5        7.6
    15      40.6        8.1
```

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16        17.5        8.7
17        17.7        9.5
18        11.2       10.5
19        16.1       11.7
20        31.2       12.8
21        16.5       14.0
22        35.8       15.3
23        21.1       16.3
24        16.9       17.3

      HEIGHT   DIRECTION   SPEED   TEMP
       FEET     DEGREES    FT/SEC

        193.      108        6.7    3.3
        421.      125        5.3    5.8
        584.      126        7.3    6.9
        804.      130        8.2    6.7
       1004.      121        8.4    6.5
       1203.       97        8.5    6.4
       1425.       76        8.3    6.2
       1600.       61        7.1    6.0
       1803.       46        6.5    1.5
       2030.       25        3.8   -3.0
       2200.      276        4.0   -5.2
       2335.      244        8.3   -5.2
       2638.      243       11.2   -5.2
       2842.      253       15.9   -5.2
       3058.      253       18.2   -5.2
       3261.      253       19.1   -4.5
       3456.      253       22.0   -3.8
       3701.      246       24.8   -3.1
       3928.      239       24.2   -2.4
       4176.      235       22.5   -1.7
       4405.      234       24.2   -1.0
       4699.      235       22.0    -.3
       4887.      236       18.8    -.3

      HEIGHT   DIRECTION   SPEED   TEMP
      METERS    DEGREES    M/SEC

         59.      108        2.0    3.3
        128.      125        1.6    5.8
        178.      126        2.2    6.9
        245.      130        2.5    6.7
        306.      121        2.6    6.5
        367.       97        2.6    6.4
        434.       76        2.5    6.2
        488.       61        2.2    6.0
        550.       46        2.0    1.5
        619.       25        1.2   -3.0
        671.      276        1.2   -5.2
        712.      244        2.5   -5.2
        804.      243        3.4   -5.2
        866.      253        4.8   -5.2
        932.      253        5.5   -5.2
        994.      253        5.8   -4.5
       1053.      253        6.7   -3.8
       1128.      246        7.6   -3.1
```
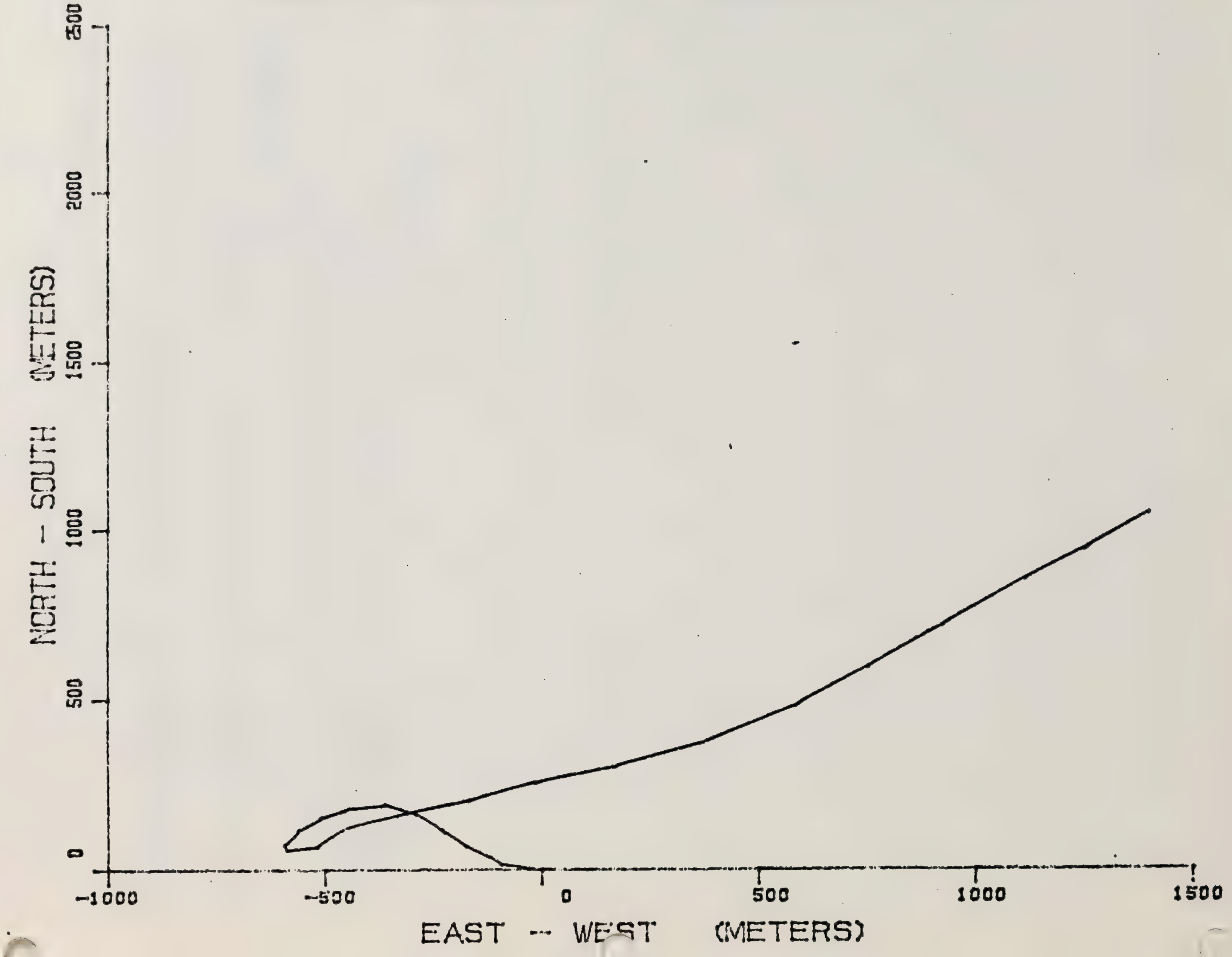

```
1197.     239       7.4  -2.4
1273.     235       6.9  -1.7
1343.     234       7.4  -1.0
1432.     235       6.7   -.3
1490.     236       5.7   -.3
```

C--B SOUNDING — PLOTTED ON 20/JUL./78

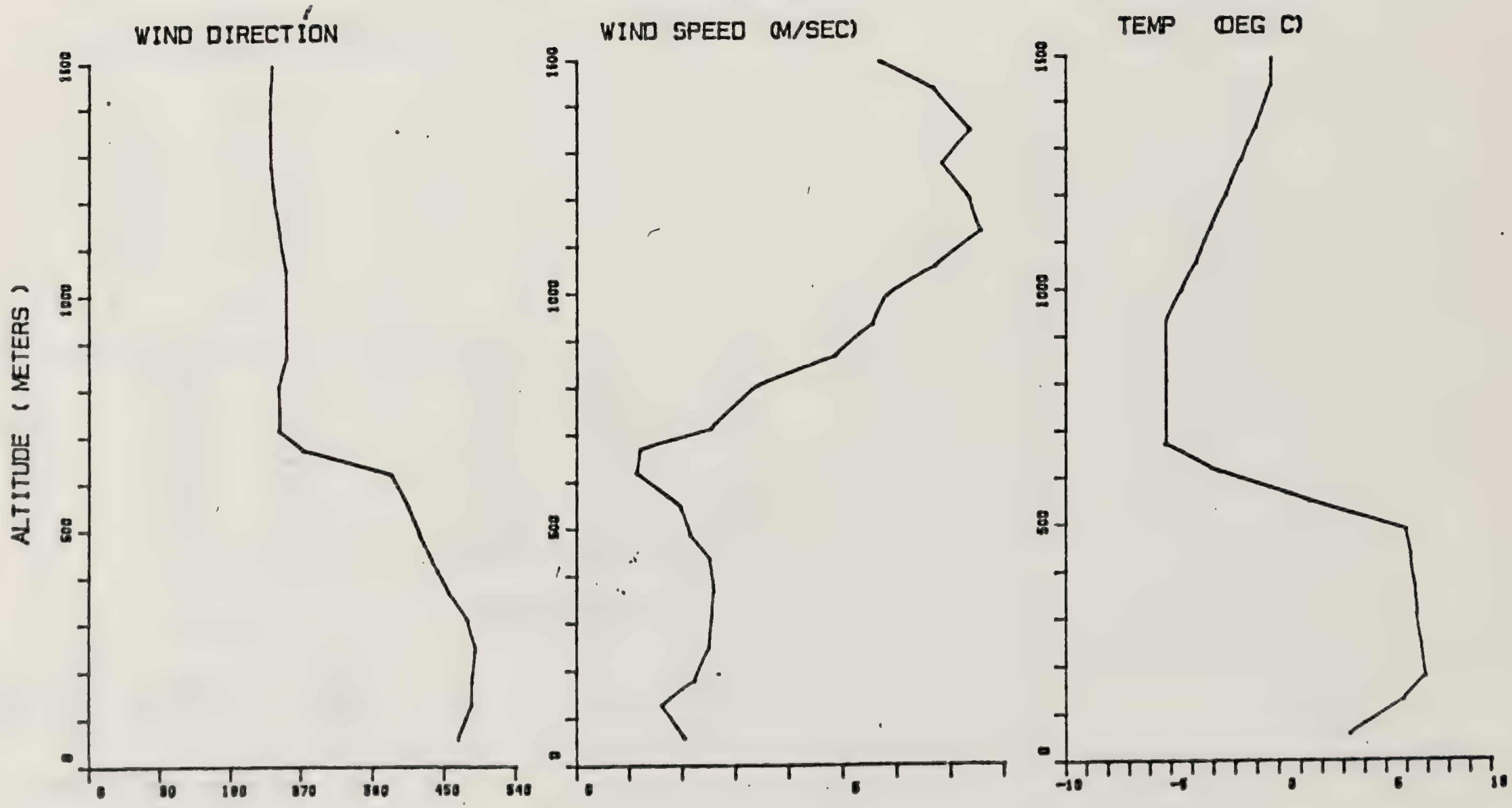
TIME 650 DATE 5/19/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 20/JUL/78

TIME .850 DATE 5/19/78



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C-B PIBAL SOUNDING                      RUN ON 21/JUL/78

SOUNDING DATE  5-19-78

BALLOON RELEASED 1430 CST


BASE LINE ANGLE              239.5
BASE LINE LENGTH (FT)       5426.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

               THEODOLITE #1             THEODOLITE #2


    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
     .0           .0         .0           59.5       -.0        .0
     .5        218.1       56.7           60.9       5.3      18.3
    1.0        208.0       60.7           61.7       8.3      17.1
    1.5        206.1       64.7           63.1      13.4      15.8
    2.0        211.1       64.7           64.9      14.0      14.6
    2.5        204.7       66.0           67.2      27.7      13.4
    3.0        198.2       67.2           70.5      34.2      11.9
    3.5        191.0       69.3           73.1      38.5      10.2
    4.0        180.2       71.2           75.1      41.2       8.5
    4.5        178.6       73.3           73.3      42.3       6.8
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

    1       12.4        5.0
    2       49.3        5.3
    3       21.4        5.7
    4      159.3        5.7
    5       22.1        6.9
    6       16.9        7.8
    7       17.3        8.7
    8       30.8        9.6
    9       25.3        9.9


         HEIGHT  DIRECTION  SPEED  TEMP
          FEET    DEGREES   FT/SEC

           569.       28       7.6  18.3
           823.        8       4.1  17.1
          1271.       27       3.4  15.8
          1345.       23       8.4  14.6
          2490.        8      11.4  13.4
          3163.      334       7.5  11.9
          3771.      300       8.0  10.2
          4349.      260       5.0   8.5


         HEIGHT  DIRECTION  SPEED  TEMP
         METERS   DEGREES   M/SEC

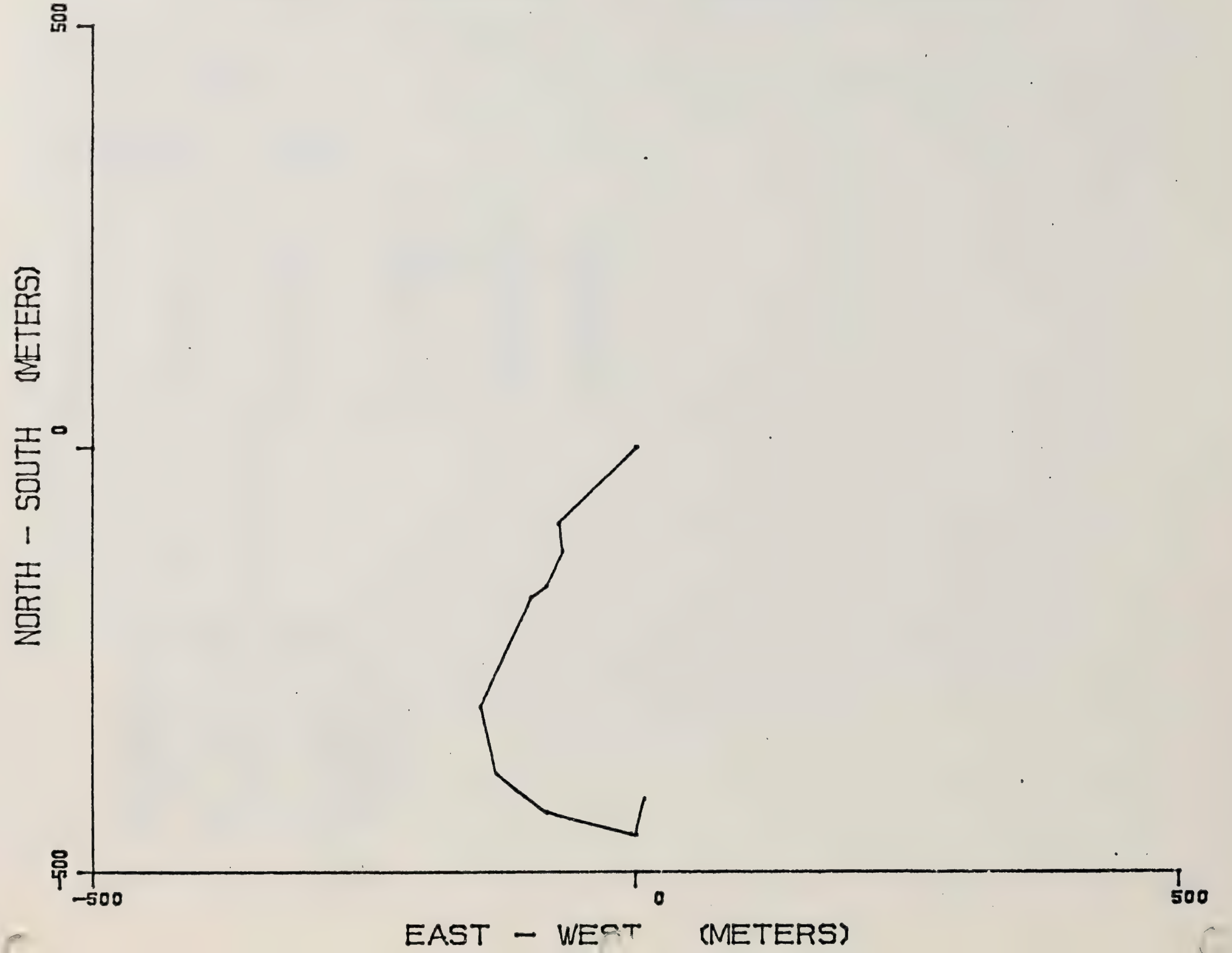
           173.       28       2.3  18.3
           251.        8       1.2  17.1
           388.       27       1.0  15.8
```

410.	23	2.6	14.6
759.	8	3.5	13.4
964.	334	2.3	11.9
1149.	300	2.4	10.2
1326.	260	1.5	8.5

C-B SOUNDING — PLOTTED ON 21/JUL/78

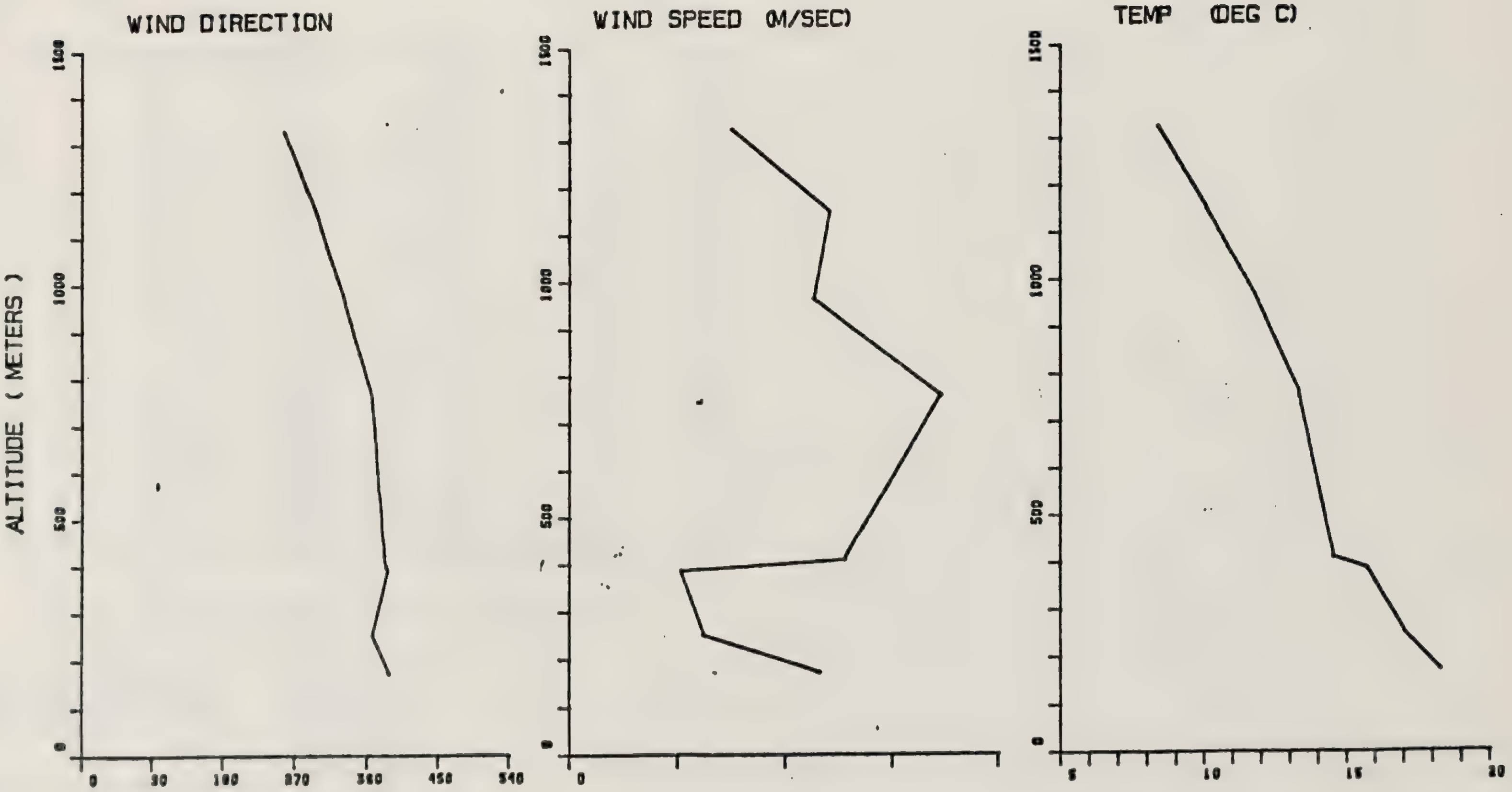
TIME 1430 DATE 5/19/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 21/JUL/78

TIME 1430 DATE 5/19/78



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C-B PIBAL SOUNDING                         RUN ON 21/JUL/78

SOUNDING DATE  5-22-78

BALLOON RELEASED  650 CST


BASE LINE ANGLE              239.5
BASE LINE LENGTH (FT)       5426.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

               THEODOLITE #1             THEODOLITE #2


    TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION     TEMP
     .0           .0         .0           59.5       -.0         .0
     .5        275.1       24.8           57.9       2.9       11.3
    1.0        274.8       22.8           52.6       4.6       12.5
    1.5        310.2       23.6           44.9       7.2       12.6
    2.0        324.4       23.6           37.3       9.4       12.6
    2.5        334.0       23.0           33.2      10.6       12.7
    3.0        342.8       22.8           31.9      11.7       12.7
    3.5        350.8       22.9           31.1      11.1       12.8
    4.0        356.6       22.9           31.3      12.6       12.2
    4.5           .8       23.9           31.6      13.3       11.6
    5.0          4.5       24.1           32.2      14.0       11.0
    5.5          7.4       24.6           32.8      14.6       10.4
    6.0         10.4       25.0           33.6      15.0        9.9
    6.5         13.0       25.0           34.1      15.4        9.3
    7.0         15.1       25.0           34.5      15.7        8.7
    7.5         16.7       25.0           34.7      16.0        8.1
    8.0         18.2       24.7           34.8      16.2        7.5
    8.5         20.9       24.7           35.9      16.4        7.7
    9.0         24.6       24.4           37.6      16.4        8.0
    9.5         28.0       23.9           39.1      16.3        7.5
   10.0         31.7       23.4           41.1      16.2        7.0
   10.5         34.6       23.2           42.9      16.2        6.5
   11.0         37.9       22.9           44.7      16.1        6.0
   11.5         40.5       22.5           46.6      16.1        5.5
   12.0         43.3       22.0           48.2      16.0        4.7
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO       ERROR

      1     191.3        4.9
      2      54.9        5.0
      3     135.6        5.9
      4      90.6        7.1
      5      83.3        8.3
      6     136.6        9.4
      7      47.2       10.7
      8      84.9       11.9
      9      38.1       12.9
     10      78.2       13.8
     11      84.6       14.6
     12      71.5       15.3
     13      81.4       16.3
     14      77.7       17.2
     15      71.3       18.1
```

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16        75.0        19.3
17        71.6        20.2
18        63.0        21.5
19        39.9        23.0
20        46.3        24.4
21        66.8        25.2
22        15.7        26.6
23       111.2        27.3
24        88.2        29.3

       HEIGHT  DIRECTION  SPEED   TEMP
        FEET    DEGREES   FT/SEC

        222.       95      16.9   11.3
        436.      145      18.1   12.5
        652.      172      28.4   12.6
        977.      175      27.2   12.6
       1227.      190      24.7   12.7
       1467.      203      25.1   12.7
       1659.      208      25.1   12.8
       1954.      213      21.4   12.2
       2224.      219      18.4   11.6
       2453.      223      16.6   11.0
       2671.      228      15.0   10.4
       2869.      227      16.7    9.9
       3093.      223      17.7    9.3
       3300.      221      16.9    8.7
       3514.      217      18.8    8.1
       3738.      227      20.2    7.5
       3954.      242      24.2    7.7
       4175.      243      30.2    8.0
       4423.      247      32.4    7.5
       4632.      259      27.3    7.0
       4758.      261      27.6    6.5
       4991.      264      27.6    6.0
       5079.      260      31.5    5.5

       HEIGHT  DIRECTION  SPEED   TEMP
       METERS   DEGREES   M/SEC

         68.       95       5.2   11.3
        133.      145       5.5   12.5
        199.      172       8.7   12.6
        298.      175       8.3   12.6
        374.      190       7.5   12.7
        447.      203       7.7   12.7
        506.      208       7.7   12.8
        596.      213       6.5   12.2
        678.      219       5.6   11.6
        748.      223       5.1   11.0
        814.      228       4.6   10.4
        875.      227       5.1    9.9
        943.      223       5.4    9.3
       1006.      221       5.2    8.7
       1071.      217       5.7    8.1
       1139.      227       6.2    7.5
       1205.      242       7.4    7.7
       1273.      243       9.2    8.0
```

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1348.     247       9.9  7.5
1412.     259       8.3  7.0
1450.     261       8.4  6.5
1521.     264       8.4  6.0
1548.     260       9.6  5.5
```
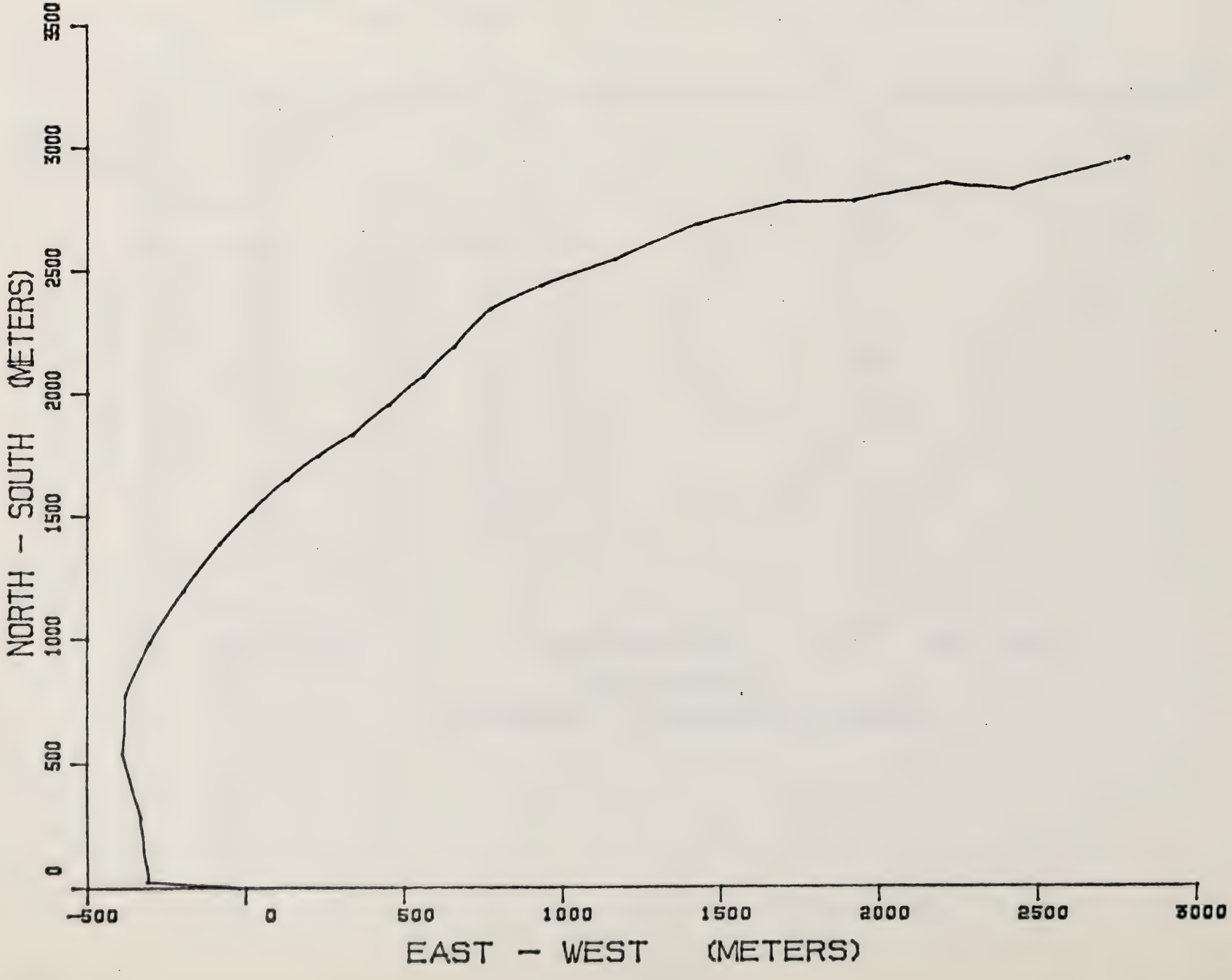

C–B SOUNDING – PLOTTED ON 21/JUL/78

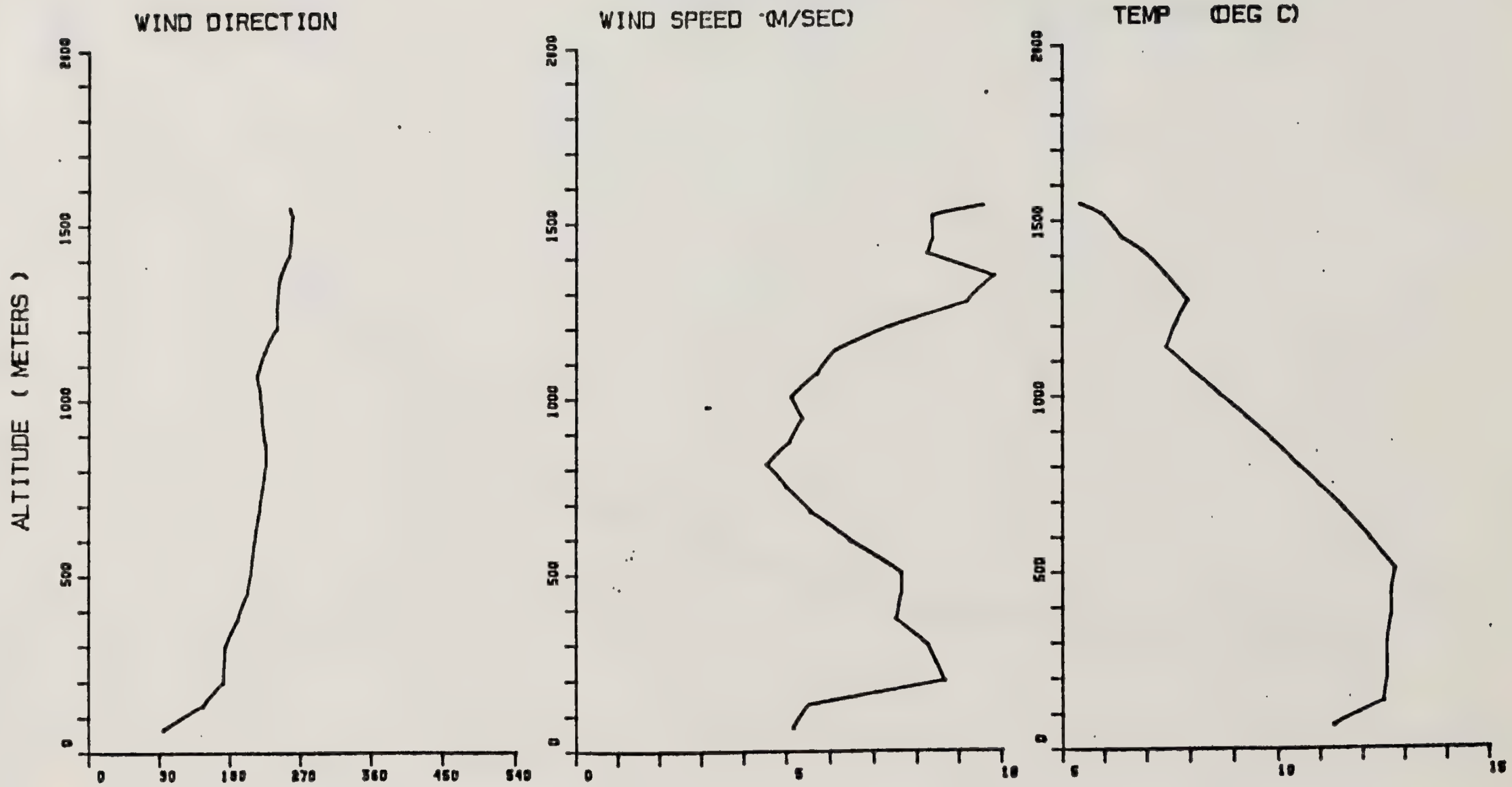
TIME 650 DATE 5/22/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 21/JUL/78

TIME 850 DATE 5/22/78



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C-H PIBAL SOUNDING                     RUN ON 21/JUL/78

SOUNDING DATE  5-22-78

BALLOON RELEASED 1300 CST


BASE LINE ANGLE             239.5
BASE LINE LENGTH (FT)      5426.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0

               THEODULITE #1            THEODOLITE #2


    TIME      AZIMUTH  ELEVATION      AZIMUTH  ELEVATION   TEMP
     .0           .0        .0         59.5       -.0        .0
     .5          9.5      17.0         53.3       2.5      21.3
    1.0          8.4      16.0         48.1       4.2      20.5
    1.5          9.1      15.5         44.0       5.3      19.8
    2.0          9.6      15.8         40.7       6.8      19.1
    2.5         10.2      15.7         38.3       7.5      18.3
    3.0         10.3      15.7         36.0       8.3      17.6
    3.5         10.8      15.9         34.3       8.8      16.8
    4.0         11.7      16.1         33.2       9.7      16.1
    4.5         11.8      16.2         31.7      10.2      15.4
    5.0         12.2      16.1         30.8      10.5      14.8
    5.5         13.0      15.3         30.2      10.2      14.4
    6.0         13.7      14.9         29.9      10.2      14.0
    6.5         14.2      14.6         29.5      10.2      13.7
    7.0         14.4      14.6         29.0      10.3      13.3
    7.5         14.3      14.4         28.5      10.4      12.9
    8.0         14.6      13.7         28.0      10.0      12.7
    8.5         15.1      13.0         27.8       9.8      12.8
    9.0         15.4      12.6         27.4       9.3      12.9
    9.5         15.6      12.1         27.1       9.1      12.9

COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      96.0        6.1
     2      97.6        7.4
     3      70.5        8.8
     4      94.0       10.2
     5      73.8       11.5
     6      74.3       13.0
     7      30.0       14.3
     8      75.7       15.8
     9      57.1       17.3
    10      54.9       18.6
    11      35.7       20.0
    12      49.2       21.1
    13      48.4       22.3
    14      23.5       23.4
    15      52.1       24.3
    16      30.1       25.7
    17      84.1       27.1
    18      24.0       28.4
    19       3.4       29.7
```

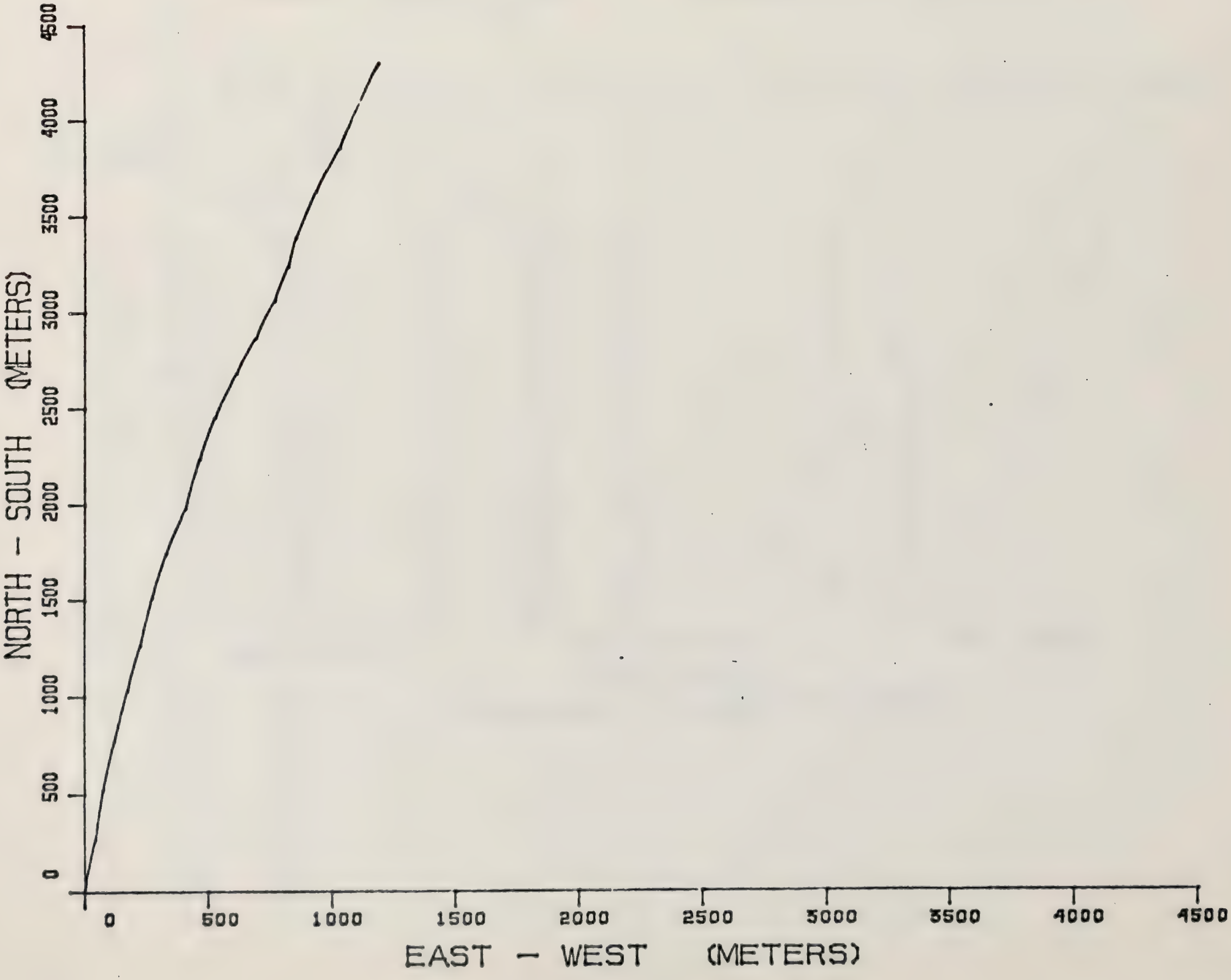
HEIGHT FEET	DIRECTION DEGREES	SPEED FT/SEC	TEMP
286.	144	28.8	21.3
515.	188	27.9	20.5
732.	190	28.6	19.8
1002.	191	27.4	19.1
1208.	191	26.7	18.3
1443.	192	26.8	17.6
1666.	196	26.5	16.8
1940.	195	27.9	16.1
2197.	194	26.7	15.4
2395.	198	25.7	14.8
2481.	202	24.3	14.4
2590.	202	22.2	14.0
2712.	199	21.7	13.7
2863.	195	18.6	13.3
2962.	196	22.0	12.9
3004.	200	27.0	12.7
3053.	201	26.3	12.8
3083.	199	25.3	12.9

HEIGHT METERS	DIRECTION DEGREES	SPEED M/SEC	TEMP
87.	144	8.8	21.3
157.	188	8.5	20.5
223.	190	8.7	19.8
305.	191	8.4	19.1
368.	191	8.1	18.3
440.	192	8.2	17.6
508.	196	8.1	16.8
591.	195	8.5	16.1
670.	194	8.1	15.4
730.	198	7.8	14.8
756.	202	7.4	14.4
789.	202	6.8	14.0
827.	199	6.6	13.7
873.	195	5.7	13.3
903.	196	6.7	12.9
916.	200	8.2	12.7
930.	201	8.0	12.8
940.	199	7.7	12.9

C-B SOUNDING — PLOTTED ON 21/JUL/78

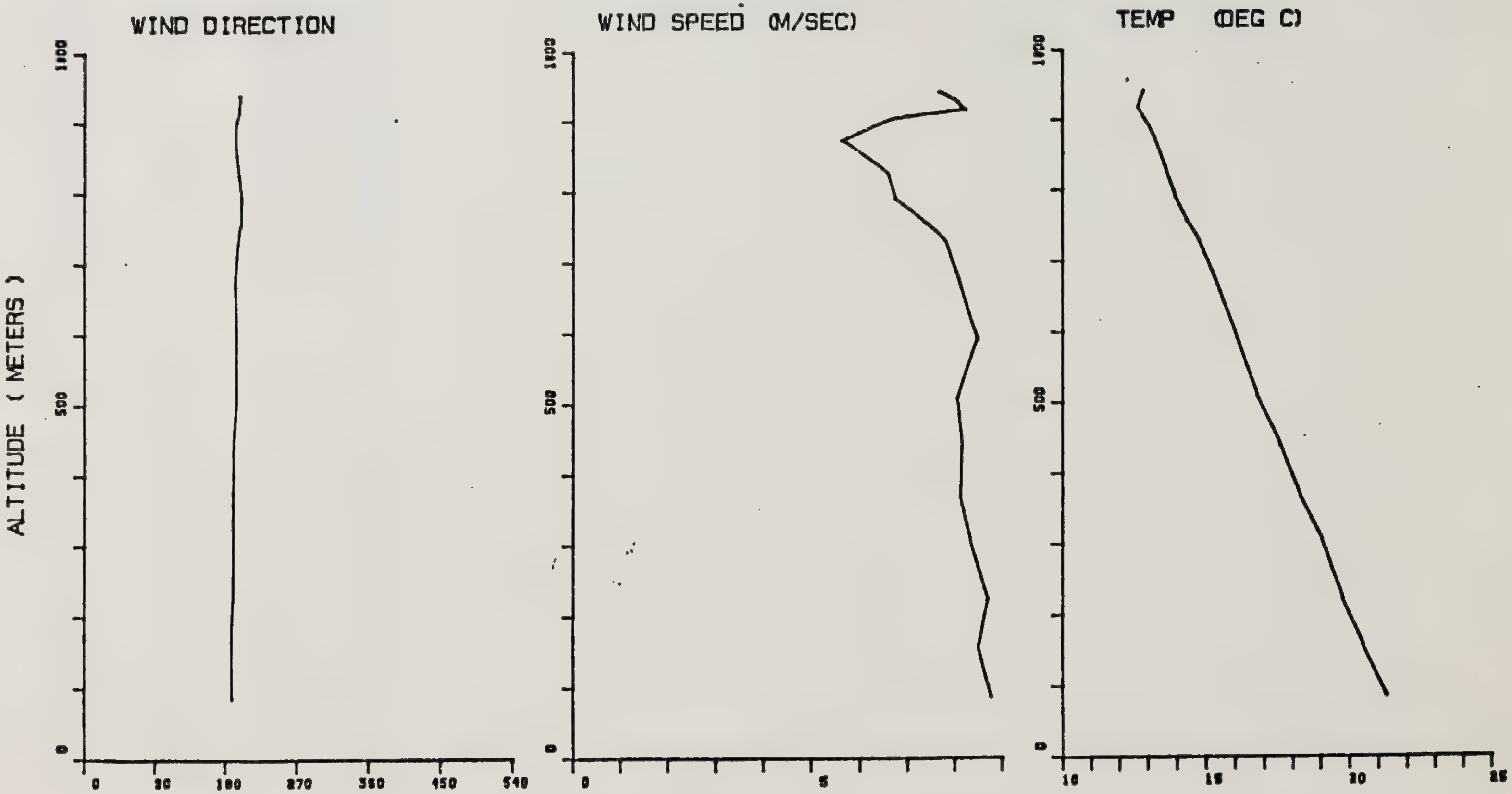
TIME 1300 DATE 5/22/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 21/JUL/78

TIME 1300 DATE 5/22/78



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C-B PIBAL SOUNDING                        RUN ON 21/JUL/78

SOUNDING DATE  5-24-78

BALLOON RELEASED  645 CST

BASE LINE ANGLE            239.5
BASE LINE LENGTH (FT)     5426.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0
                THEODOLITE #1          THEODOLITE #2

    TIME      AZIMUTH  ELEVATION      AZIMUTH  ELEVATION   TEMP
     .0           .0         .0         59.5       -.0       .0
     .5        329.5       13.6         53.4       2.4     12.8
    1.0        330.8       13.2         44.0       3.3     12.4
    1.5        331.9       12.3         33.7       5.1     11.9
    2.0        333.5       11.5         25.7       6.2     11.4
    2.5        335.3       11.0         20.1       6.8     10.9
    3.0        336.4       11.4         15.0       7.8     10.5
    3.5        338.3       11.4         11.9       8.3     10.0
    4.0        339.7       11.5          9.7       8.7      9.2
    4.5        340.8       11.7          7.9       9.1      8.5
    5.0        342.2       12.1          6.2       9.6      7.7
    5.5        343.4       12.3          5.3      10.0      6.9
    6.0        344.7       12.3          4.7      10.1      6.2
    6.5        346.0       12.4          4.2      10.3      5.4
    7.0        347.8       12.4          4.2      10.4      4.6
    7.5        348.9       12.3          4.3      10.5      3.9
    8.0        350.1       12.4          4.4      10.6      3.1
    8.5        351.5       12.5          4.7      10.8      2.3
    9.0        352.6       12.7          5.0      10.9      1.5
    9.5        353.5       12.7          5.2      11.0       .8
   10.0        354.4       12.7          5.5      11.0       .0
   10.5        355.2       12.7          5.6      11.1      -.6
   11.0        355.6       12.7          5.7      11.0     -1.1
   11.5        356.1       12.6          5.6      11.0     -1.7
   12.0        356.6       12.4          5.7      11.1     -2.2
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME     RHO       ERROR

     1    183.1        5.3
     2     69.6        6.3
     3     63.2        7.8
     4     65.6        9.4
     5     62.3       11.1
     6     52.5       13.0
     7     52.5       15.0
     8     47.0       16.8
     9     36.9       18.7
    10      7.9       21.1
    11     17.0       23.1
    12       .5       25.2
    13     12.8       27.5
    14     24.4       30.3
    15     13.3       32.1
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 16       12.6      34.3
 17        1.8      36.9
 18       58.3      39.0
 19       44.0      41.1
 20       67.0      43.0
 21       57.4      45.7
 22      121.3      46.8
 23      119.2      49.7
 24        4.9      51.9

      HEIGHT  DIRECTION  SPEED   TEMP
       FEET    DEGREES   FT/SEC

        169.      151      25.5  12.8
        374.      153      34.5  12.4
        606.      156      38.4  11.9
        803.      160      37.0  11.4
        977.      162      38.1  10.9
       1253.      165      39.6  10.5
       1485.      169      37.2  10.0
       1709.      170      35.4   9.2
       1952.      171      40.6   8.5
       2297.      174      41.8   7.7
       2582.      177      38.7   6.9
       2827.      179      42.4   6.2
       3133.      181      48.8   5.4
       3460.      184      43.8   4.6
       3666.      185      38.7   3.9
       3954.      187      45.9   3.1
       4304.      189      44.3   2.3
       4599.      189      39.8   1.5
       4869.      190      38.6    .8
       5095.      189      43.8    .0
       5435.      188      36.0   -.6
       5543.      185      37.3  -1.1
       5853.      185      47.9  -1.7

      HEIGHT  DIRECTION  SPEED   TEMP
      METERS   DEGREES   M/SEC

         52.      151       7.8  12.8
        114.      153      10.5  12.4
        185.      156      11.7  11.9
        245.      160      11.3  11.4
        298.      162      11.6  10.9
        382.      165      12.1  10.5
        453.      169      11.3  10.0
        521.      170      10.8   9.2
        595.      171      12.4   8.5
        700.      174      12.7   7.7
        787.      177      11.8   6.9
        862.      179      12.9   6.2
        955.      181      14.9   5.4
       1055.      184      13.4   4.6
       1117.      165      11.8   3.9
       1205.      187      14.0   3.1
       1312.      189      13.5   2.3
       1402.      189      12.1   1.5
```
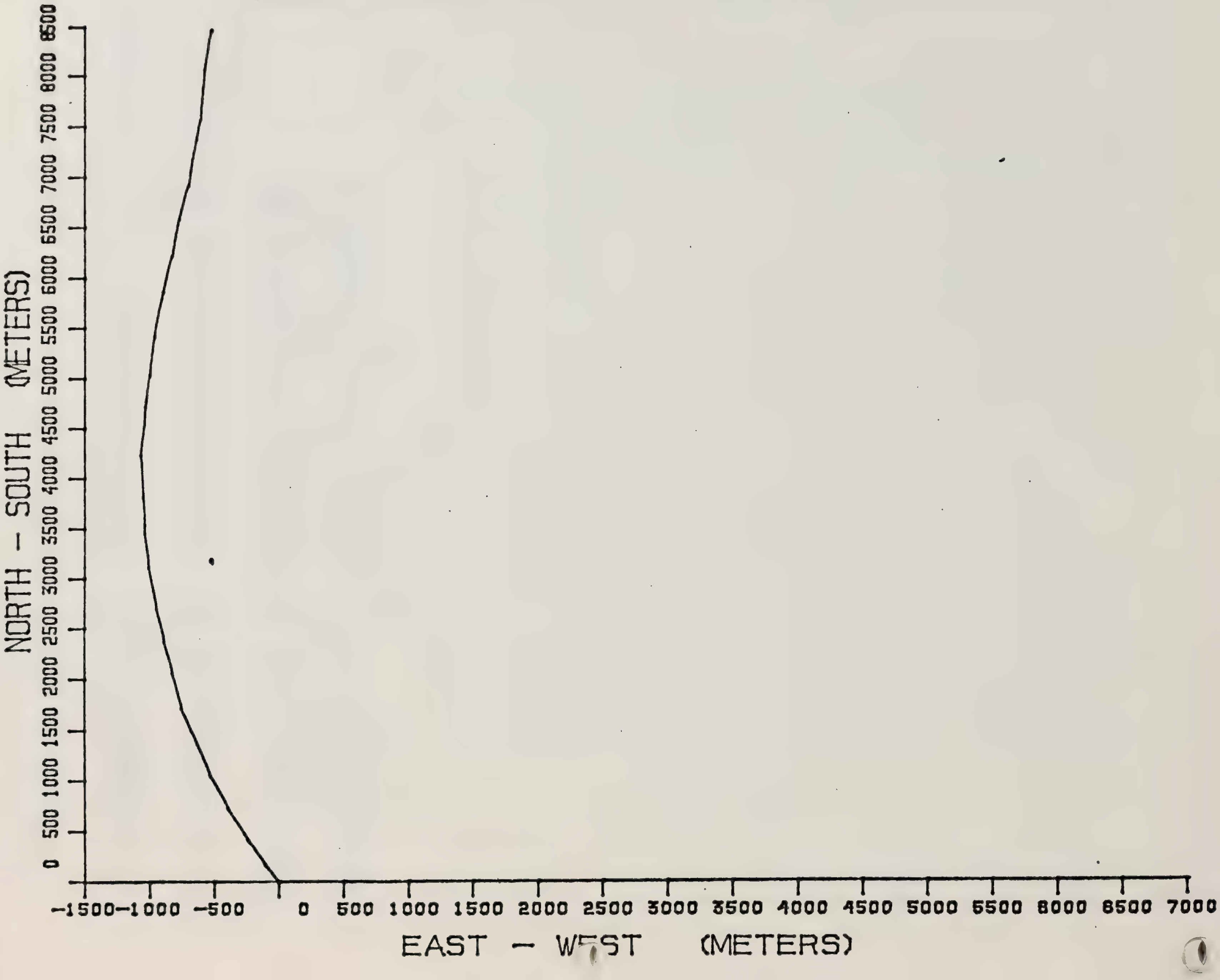

```
1484.     190     11.8    .8
1553.     189     13.4    .0
1657.     188     11.0   -.6
1689.     185     11.4  -1.1
1784.     185     14.6  -1.7
```

C–B SOUNDING – PLOTTED ON 21/JUL/78

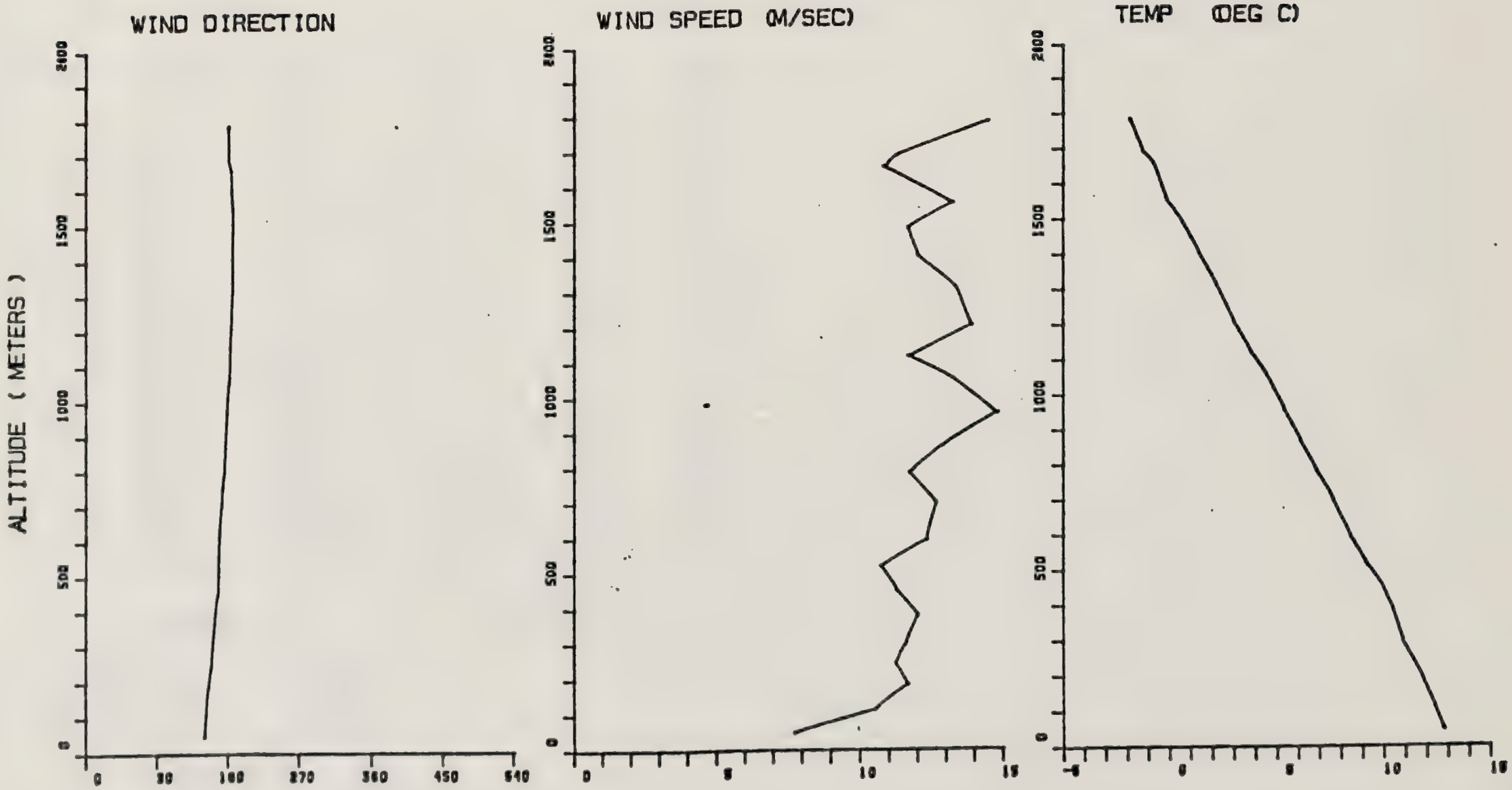
TIME 645 DATE 5/24/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 21/JUL/78

TIME 845 DATE 5/24/78



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C-R PIBAL SOUNDING                        RUN ON 21/JUL/78

SOUNDING DATE  5-24-78

BALLOON RELEASED 1345 CST

BASE LINE ANGLE           239.5
BASE LINE LENGTH (FT)    5426.5
TIME INTERVAL (SEC)        30.0
BASE LINE HEIGHT (FT)     100.0

               THEODOLITE #1             THEODOLITE #2

   TIME        AZIMUTH  ELEVATION        AZIMUTH  ELEVATION   TEMP
    .0            .0        .0             59.5      -.0        .0
    .5         344.1      15.4             51.2      2.1      19.0
   1.0         351.6      16.3             43.7      4.5      17.9
   1.5         355.0      17.8             37.0      7.5      16.7
   2.0         357.4      16.8             31.9      8.7      15.6
   2.5         357.3      17.5             28.8     10.3      14.3
   3.0         357.6      18.6             24.8     11.7      13.0
   3.5         358.5      20.0             21.4     13.6      11.4
   4.0         358.4      20.6             20.5     14.7       9.6
   4.5         357.5      20.6             18.0     15.4       7.7
   5.0         356.4      21.5             15.7     15.6       5.9
   5.5         356.6      22.4             14.3     17.8       4.0
   6.0         357.0      23.3             13.4     18.8       2.0
   6.5         357.6      23.3             12.7     19.1        .0
   7.0         358.7      22.8             12.5     19.0      -1.2
   7.5         359.0      21.7             11.8     18.4      -2.3
   8.0         359.4      20.7             11.1     17.6      -3.5
   8.5         359.8      19.7             10.6     17.0      -4.6
   9.0         359.7      19.0              9.8     16.5      -5.8
   9.5         359.7      18.8              9.2     16.2      -6.9
  10.0         359.8      18.5              8.8     16.3      -8.1
  10.5         360.0      18.2              8.4     16.0      -9.3
  11.0            .3      17.7              8.1     15.8      -10.
  11.5            .7      17.5              8.0     15.5      -12.
  12.0            .9      17.0              7.8     15.1      -13.
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      71.9        5.8
     2      51.4        7.3
     3      63.3        9.3
     4      52.5       11.6
     5      92.1       13.1
     6       5.3       15.6
     7      74.4       18.8
     8        .8       19.9
     9       8.5       22.0
    10     259.5       23.5
    11      16.8       26.5
    12      54.1       28.8
    13      68.3       31.3
    14      50.2       34.0
    15      16.0       36.6
```

```
16        93.3      39.7
17        63.6      42.9
18        96.0      45.9
19       234.6      48.4
20       114.3      51.6
21       209.2      54.9
22       142.9      59.3
23       283.4      62.5
24       309.2      65.9

      HEIGHT   DIRECTION   SPEED   TEMP
       FEET     DEGREES   FT/SEC

        250.      172       31.5   19.0
        565.      180       38.0   17.9
       1024.      181       43.1   16.7
       1366.      180       37.0   15.6
       1720.      178       38.2   14.3
       2271.      180       53.5   13.0
       3080.      180       38.7   11.4
       3412.      173       28.8    9.6
       3865.      167       34.7    7.7
       4263.      173       39.7    5.9
       5206.      180       44.6    4.0
       5915.      182       41.2    2.0
       6474.      187       47.0     .0
       6945.      186       50.2   -1.2
       7194.      182       55.3   -2.3
       7469.      183       60.8   -3.5
       7752.      181       59.6   -4.6
       8032.      179       52.8   -5.8
       8365.      180       53.3   -6.9
       8865.      182       60.5   -8.1
       9279.      183       72.2   -9.3
       9820.      185       71.6  -10.4
      10208.      185       62.8  -11.6

      HEIGHT   DIRECTION   SPEED   TEMP
      METERS    DEGREES    M/SEC

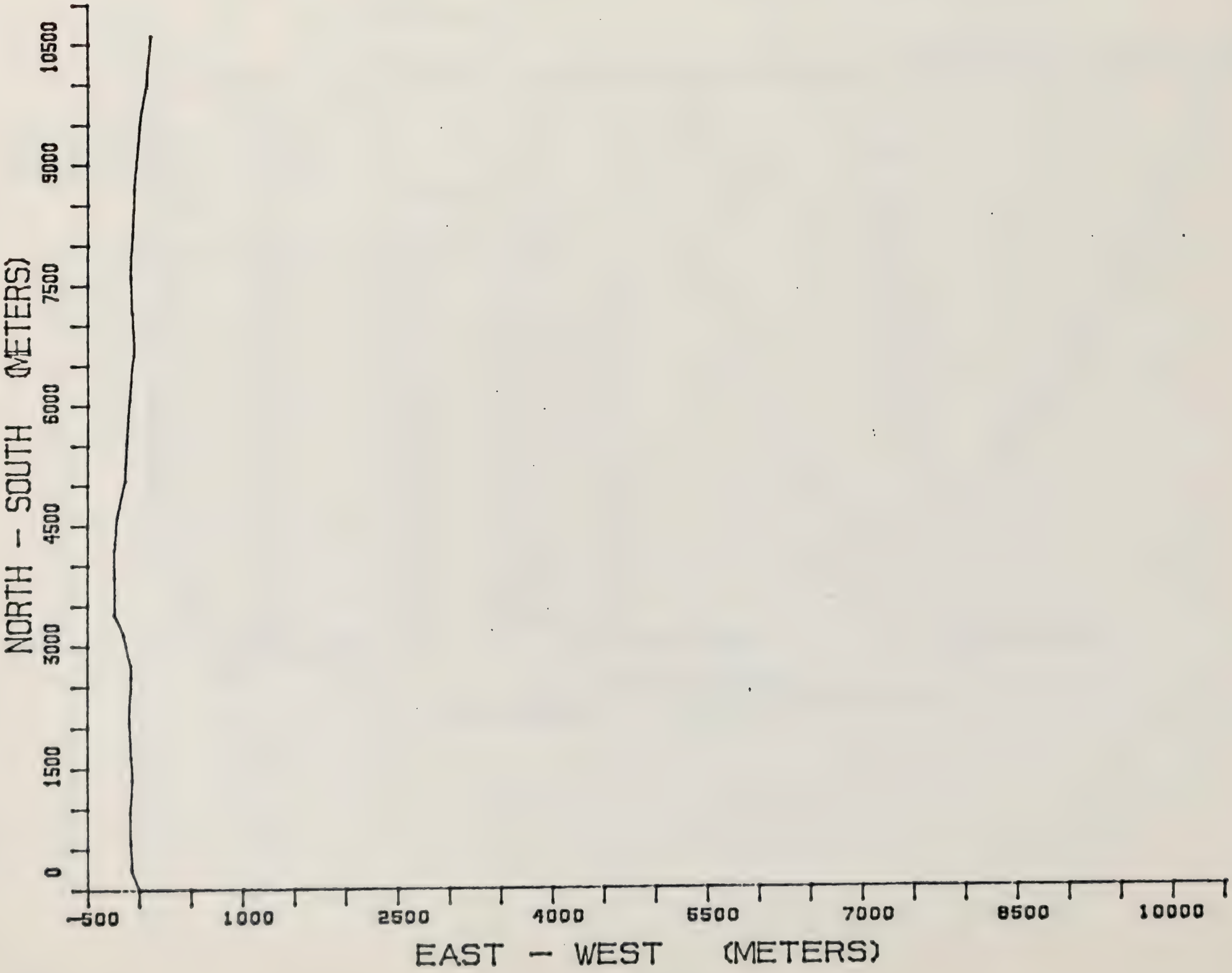
         76.      172        9.6   19.0
        172.      180       11.6   17.9
        312.      181       13.1   16.7
        416.      180       11.3   15.6
        524.      178       11.6   14.3
        692.      180       16.3   13.0
        939.      180       11.8   11.4
       1040.      173        8.8    9.6
       1178.      167       10.6    7.7
       1299.      173       12.1    5.9
       1587.      180       13.6    4.0
       1803.      182       12.6    2.0
       1973.      187       14.3     .0
       2117.      186       15.3   -1.2
       2193.      182       16.9   -2.3
       2277.      183       18.5   -3.5
       2363.      181       18.2   -4.6
       2448.      179       16.1   -5.8
```

```
2550.      180       16.2  -6.9
2702.      182       18.4  -8.1
2828.      183       22.0  -9.3
2993.      185       21.8 -10.4
3111.      185       19.1 -11.6
```

C-B SOUNDING — PLOTTED ON 21/JUL/78

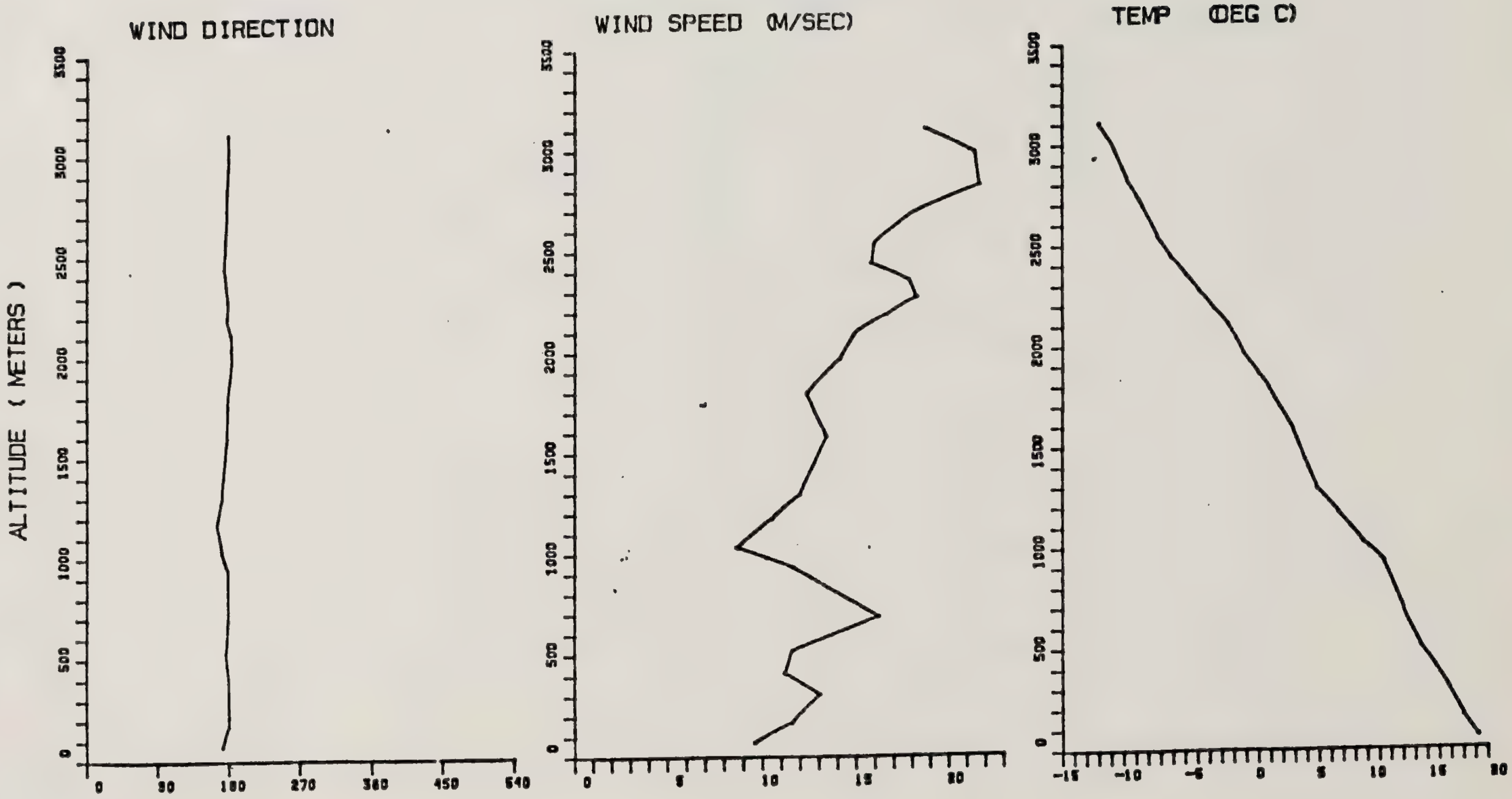
TIME 1345 DATE 5/24/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 21/JUL/78

TIME 1345 DATE 5/24/78



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C-8 PIBAL SOUNDING                          RUN ON 20/JUL/78

SOUNDING DATE  5-26-78

BALLOON RELEASED  655 CST


BASE LINE ANGLE              239.5
BASE LINE LENGTH (FT)       5426.5
TIME INTERVAL (SEC)           30.0
BASE LINE HEIGHT (FT)        100.0

                THEODOLITE #1             THEODOLITE #2


    TIME        AZIMUTH  ELEVATION        AZIMUTH  ELEVATION     TEMP
      .0             .0         .0           59.5        -.0       .0
      .5          170.1       75.0           59.9        2.2      8.0
     1.0           69.1       59.0           60.0        4.7     10.0
     1.5           61.4       51.5           59.6        6.9     10.0
     2.0           54.5       57.1           58.2        9.6     10.3
     2.5           32.5       66.0           56.7       12.1     11.0
     3.0           13.2       69.6           55.2       14.6     11.6
     3.5            7.1       68.7           53.6       16.5     12.3
     4.0            1.1       64.6           51.0       18.5     11.8
     4.5          354.1       59.3           47.4       19.9     11.4
     5.0          351.0       51.6           42.0       21.3     10.9
     5.5          351.0       47.3           38.5       21.9     10.5
     6.0          351.0       42.7           33.5       22.2     10.0
     6.5          351.2       38.6           30.3       22.2      9.5
     7.0          352.1       35.6           26.8       21.9      8.9
     7.5          353.7       33.5           25.0       21.5      8.4
     8.0          356.2       31.4           23.9       21.0      7.8
     8.5          358.2       30.8           23.1       20.7      7.2
     9.0          359.6       28.9           22.2       20.6      6.3
     9.5             .5       27.9           21.4       20.3      5.5
    10.0            1.2       27.4           20.8       20.2      4.6
    10.5            1.7       26.7           20.1       20.1      3.8
    11.0            2.0       26.5           19.2       20.3      3.0
    11.5            1.7       26.4           18.2       20.5      2.1
    12.0            1.2       26.3           17.3       20.8      1.3
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

   TIME      RHO       ERROR

      1       38.2       5.0
      2        7.2       5.6
      3       11.4       6.3
      4       75.3       6.6
      5       12.5       6.7
      6        2.0       6.8
      7       34.1       7.1
      8       32.2       7.6
      9       29.2       8.1
     10        9.6       9.0
     11        3.6       9.8
     12       70.0      11.1
     13        8.7      12.2
     14       38.6      13.7
     15       50.6      15.1
```
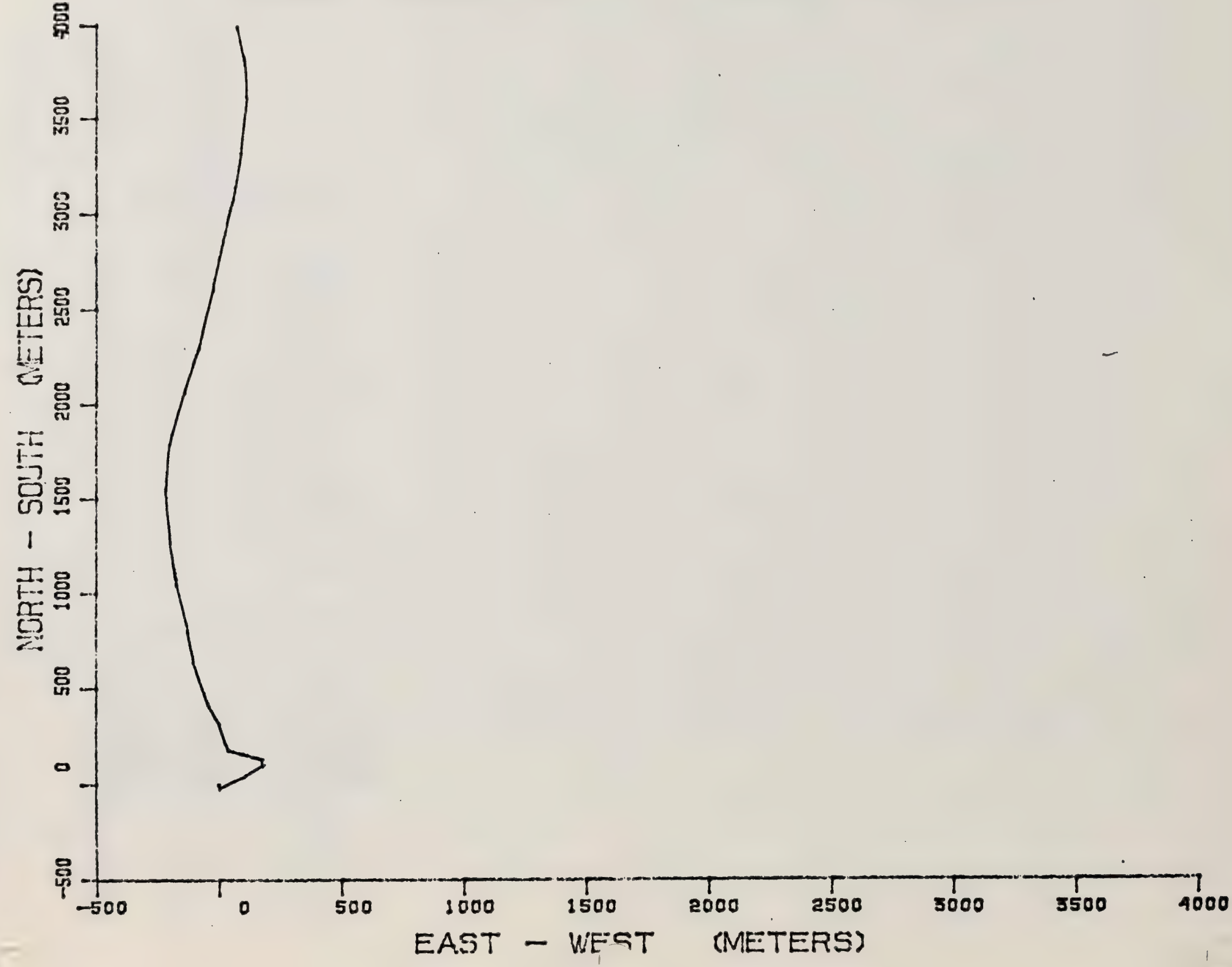

```
16        36.7        16.6
17       152.8        18.0
18        26.6        19.9
19        39.2        21.3
20        66.7        22.6
21        55.0        24.1
22.       78.9        25.8
23        98.0        27.1
24        61.7        28.2

      HEIGHT  DIRECTION  SPEED  TEMP
       FEET    DEGREES   FT/SEC

        299.     248       5.7   8.0
        573.     235      11.6  10.0
        837.     220       7.0  10.0
       1146.     129       5.4  10.3
       1385.     108       8.0  11.0
       1627.     130       5.3  11.6
       1855.     164       7.4  12.3
       2123.     161      11.7  11.8
       2332.     162      18.4  11.4
       2635.     168      20.7  10.9
       2854.     171      23.0  10.5
       3169.     172      26.1  10.0
       3360.     175      27.6   9.5
       3649.     180      28.1   8.9
       3867.     188      28.3   8.4
       4113.     193      28.4   7.8
       4401.     192      30.4   7.2
       4697.     190      31.3   6.3
       4930.     189      25.5   5.5
       5174.     189      25.3   4.6
       5431.     186      29.0   3.8
       5832.     181      27.3   3.0
       6151.     175      21.8   2.1

      HEIGHT  DIRECTION  SPEED  TEMP
      METERS   DEGREES   M/SEC

         91.     248       1.7   8.0
        175.     235       3.5  10.0
        255.     220       2.1  10.0
        349.     129       1.6  10.3
        422.     108       2.4  11.0
        496.     130       1.6  11.6
        565.     164       2.5  12.3
        647.     161       3.6  11.8
        711.     162       5.6  11.4
        803.     168       6.3  10.9
        870.     171       7.0  10.5
        966.     172       8.0  10.0
       1024.     175       8.4   9.5
       1112.     180       8.6   8.9
       1179.     168       8.6   8.4
       1254.     193       8.7   7.8
       1341.     192       9.3   7.2
       1432.     190       9.5   6.3
```

```
1503.     189       7.8   5.5
1577.     189       7.7   4.6
1655.     186       8.8   3.8
1778.     181       8.3   3.0
1875.     175       6.6   2.1
```

C-B SOUNDING – PLOTTED ON 20/JUL/78

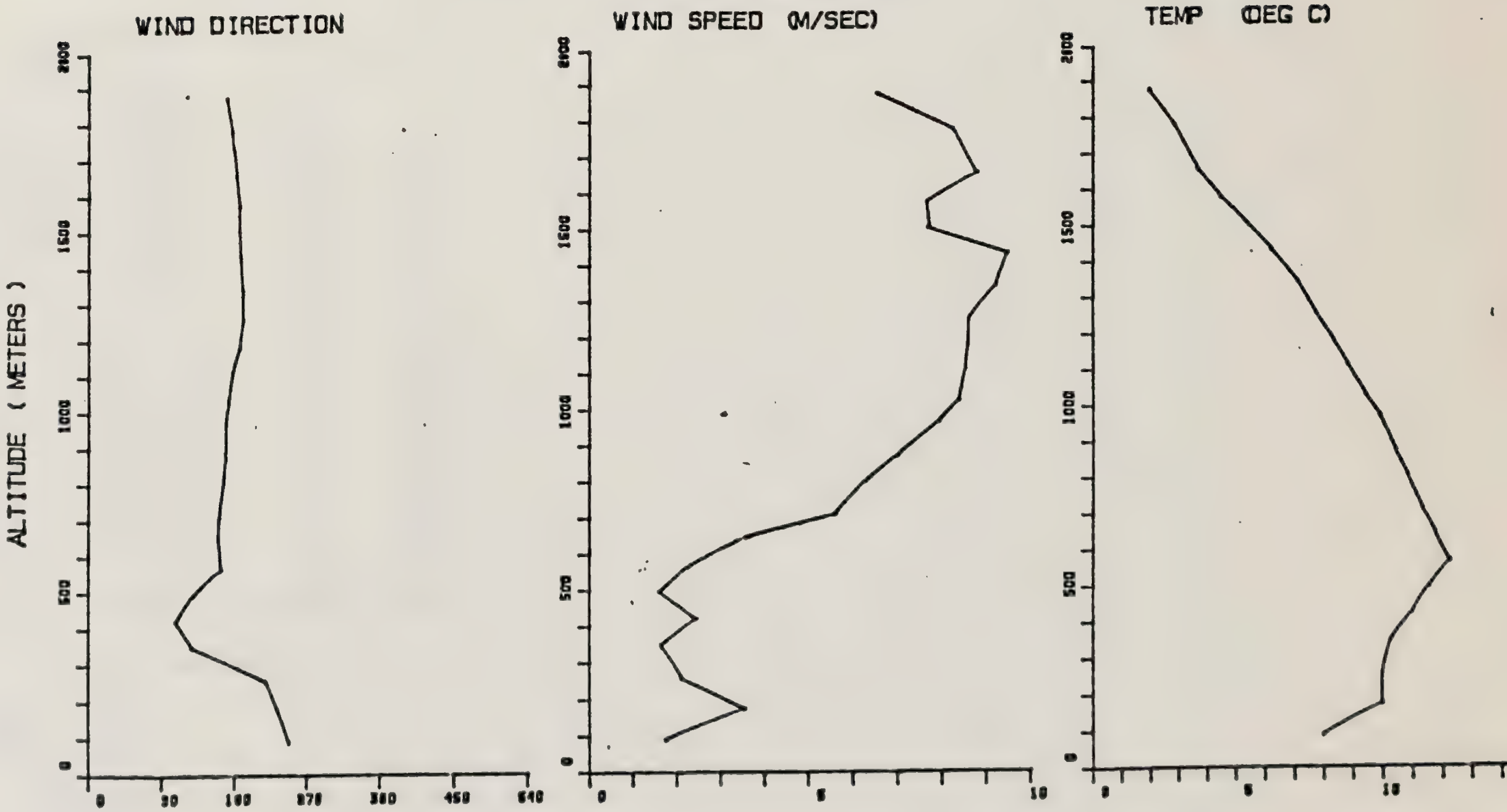
TIME 655 DATE 5/26/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING – PLOTTED ON 20/JUL/78

TIME 655 DATE 5/20/78



```
C-8 PIBAL SOUNDING                        RUN ON 24/JUL/78

SOUNDING DATE  5-25-78

BALLOON RELEASED 1310 CST

BASE LINE ANGLE            239.5
BASE LINE LENGTH (FT)     5426.5
TIME INTERVAL (SEC)         30.0
BASE LINE HEIGHT (FT)      100.0

             THEODOLITE #1             THEODOLITE #2

   TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
    .0          .0        .0            59.5       -.0         .0
    .5       336.1      25.3            51.7       3.6       24.2
   1.0       342.8      16.0            44.0       4.3       20.3
   1.5       340.2      12.4            36.6       4.6       20.2
   2.0       340.5       9.8            30.3       4.6       20.1
   2.5       340.2       8.7            25.2       4.4       20.0
   3.0       340.6       7.7            20.8       3.8       19.9
   3.5       341.1       6.9            17.0       3.8       19.8
   4.0       340.4       6.5            15.1       3.8       19.7
   4.5       340.2       6.0             9.4       4.2       19.6
   5.0       339.0       6.0             6.5       4.4       19.3
   5.5       338.5       7.4             3.7       5.6       19.0
   6.0       339.0       9.3             2.0       7.4       18.0
   6.5       339.4      10.3              .4       8.3       16.9
   7.0       340.0      11.0           359.2       9.1       15.0
   7.5       339.7      11.6           357.8       9.8       13.5
   8.0       339.5      12.5           356.3      10.9       12.0
   8.5       339.6      13.4           355.5      11.6       10.5
   9.0       339.5      14.4           354.7      12.6        9.0
   9.5       340.9      15.8           355.1      13.0        7.5
  10.0       341.0      16.3           355.4      14.6        5.7
  10.5       342.4      16.7           355.1      14.9        4.0
  11.0       342.9      17.2           355.0      15.4        2.2
  11.5       343.3      17.5           355.0      15.7         .5
  12.0       343.9      17.8           355.1      15.9        -.9
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

     1      81.9        5.6
     2      75.4        6.8
     3      56.3        7.9
     4      61.5        9.2
     5      18.2       10.4
     6      62.1       11.8
     7      54.0       13.4
     8      37.9       14.0
     9       5.7       17.1
    10       5.4       18.4
    11      34.5       20.3
    12      38.5       22.4
    13      83.6       24.6
    14      85.5       27.0
    15      85.5       28.9
```

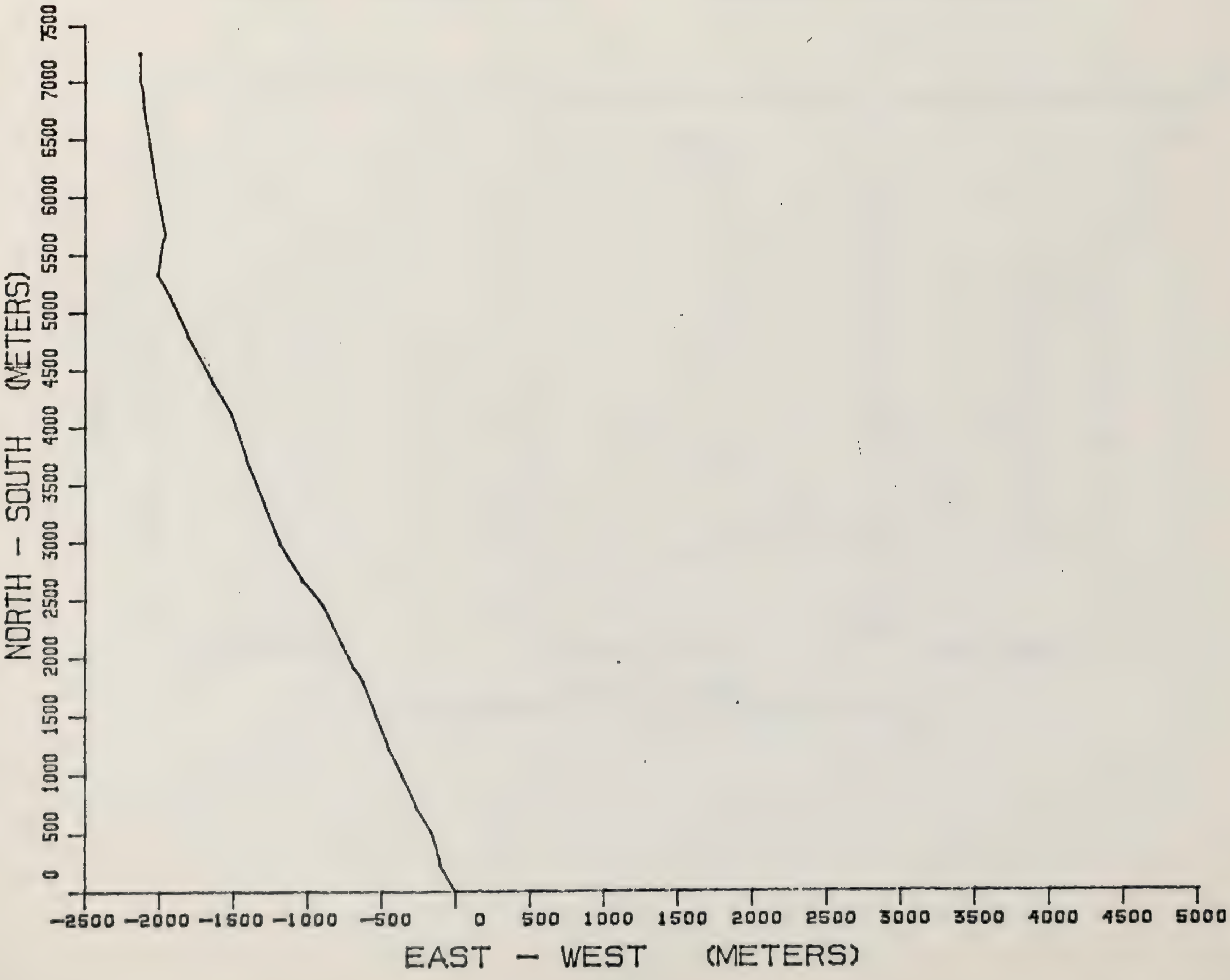
```
16      53.2       31.4
17     134.1       33.2
18     146.9       35.0
19     511.1       36.8
20      67.1       37.1
21     167.9       41.8
22     186.2       43.9
23     199.3       45.4
24     258.4       46.8

     HEIGHT  DIRECTION  SPEED  TEMP
      FEET    DEGREES   FT/SEC

      387.      163      27.9  24.2
      497.      163      29.3  20.3
      576.      159      30.1  20.2
      621.      161      29.7  20.1
      669.      161      29.5  20.0
      685.      164      32.0  19.9
      733.      160      23.6  19.8
      743.      158      38.2  19.7
      899.      156      45.5  19.6
      989.      152      33.7  19.3
     1352.      159      38.6  19.0
     1899.      164      40.7  18.0
     2318.      165      43.5  16.5
     2740.      162      39.7  15.0
     3110.      157      40.6  13.5
     3685.      159      39.9  12.0
     4162.      160      32.0  10.5
     4719.      173      30.6   9.0
     5277.      188      17.7   7.5
     5697.      175      44.6   5.7
     6561.      173      61.7   4.0
     7098.      174      31.4   2.2
     7466.      178      26.0    .5

     HEIGHT  DIRECTION  SPEED  TEMP
     METERS   DEGREES   M/SEC

      118.      163       8.5  24.2
      152.      163       8.9  20.3
      176.      159       9.2  20.2
      189.      151       9.1  20.1
      204.      161       9.0  20.0
      209.      164       9.8  19.9
      224.      160       7.2  19.8
      227.      158      11.6  19.7
      274.      156      13.9  19.6
      301.      152      10.3  19.3
      412.      159      11.8  19.0
      579.      164      12.4  18.0
      706.      165      13.3  16.5
      835.      162      12.1  15.0
      948.      157      12.4  13.5
     1123.      159      12.2  12.0
     1269.      160       9.8  10.5
     1438.      173       9.3   9.0
```

```
1609.        148         5.4   7.5
1736.        175        13.6   5.7
2000.        173        18.8   4.0
2163.        174         9.6   2.2
2276.        178         7.9    .5
```

C-B SOUNDING — PLOTTED ON 24/JUL/78

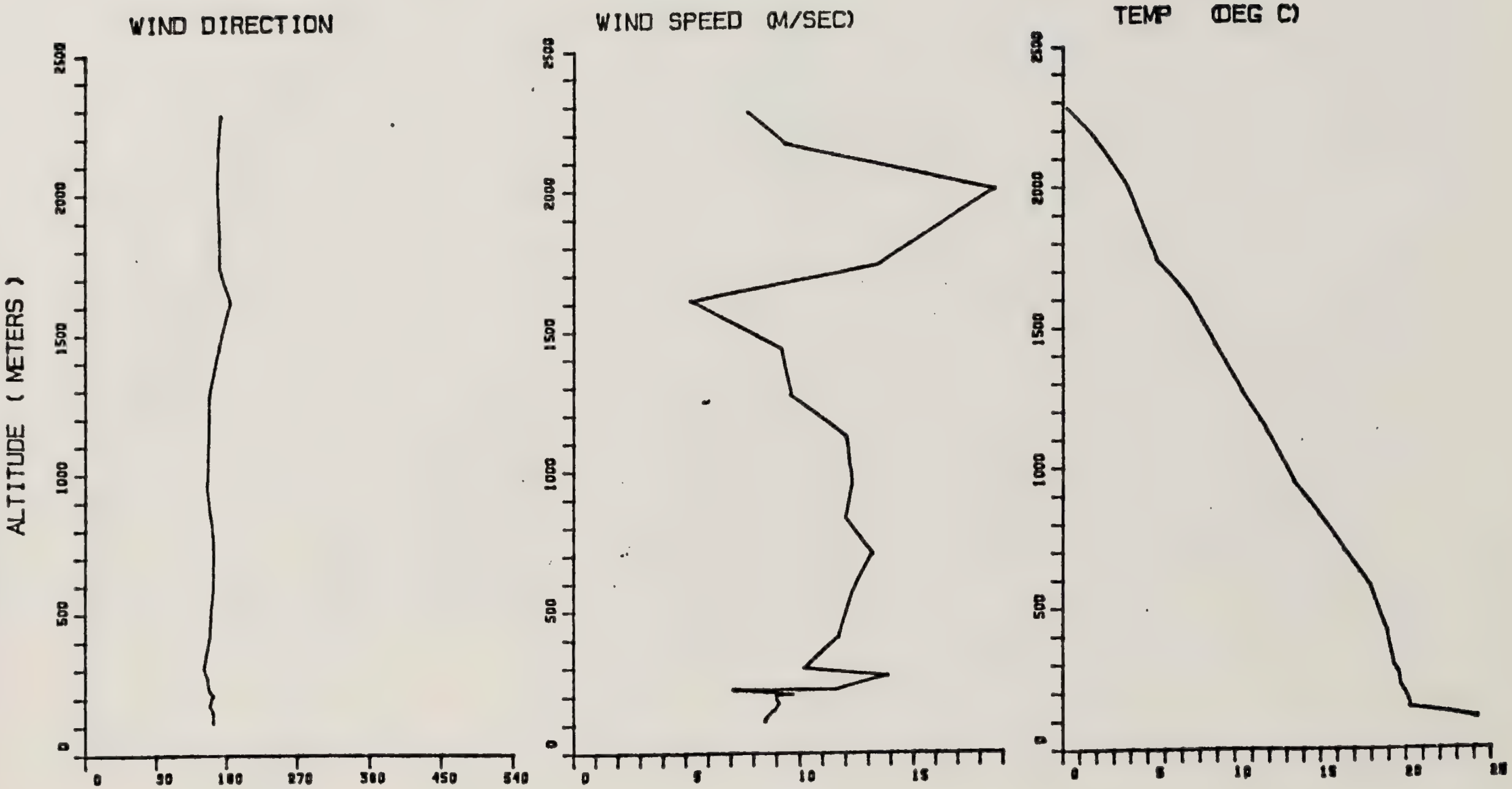
TIME 1310 DATE 5/26/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING - PLOTTED ON 24/JUL/78

TIME 1310 DATE 5/26/78



C-b Sounding

Date 5/29/78

No data taken (Holiday)

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C-B PIBAL SOUNDING                        RUN ON 21/JUL/78

SOUNDING DATE  5-30-78

BALLOON RELEASED  700 CST

BASE LINE ANGLE             239.5
BASE LINE LENGTH (FT)      5426.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0

                THEODOLITE #1          THEODOLITE #2

    TIME      AZIMUTH  ELEVATION       AZIMUTH  ELEVATION     TEMP
     .0          .0        .0            59.5      -.0
     .5        137.1      68.7           60.5      2.7
    1.0        117.0      58.2           62.1      5.4
    1.5        101.4      43.3           64.2      6.9
    2.0         95.6      34.3           66.7      8.3
    2.5         92.0      27.3           68.8      9.1
    3.0         88.6      23.6           70.1      9.6
    3.5         87.2      20.6           71.6      9.7
    4.0         87.0      18.9           72.8      9.9
    4.5         88.0      17.6           74.7     10.2
    5.0         88.0      17.5           75.9     10.3
    5.5         88.4      16.8           77.1     10.6
    6.0         89.1      16.5           77.7     10.9
    6.5         88.2      16.2           77.8     11.2
    7.0         87.9      15.6           77.1     11.6
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR

    1       38.2        5.1
    2       66.6        5.6
    3       76.7        6.3
    4       68.8        7.5
    5       99.0        9.0
    6       99.0       10.7
    7       88.4       12.6
    8      113.5       14.2
    9      137.3       16.2
   10       33.3       17.8
   11       64.7       19.8
   12      148.5       20.5
   13      188.1       22.2
   14      438.0       21.7

        HEIGHT  DIRECTION  SPEED   TEMP
         FEET    DEGREES   FT/SEC

          345.     297       6.1
          605.     275      12.2
          797.     268      19.5
         1042.     266      26.2
         1256.     262      30.9
         1485.     261      34.2
  1688.      264       33.4
  1865.      269       34.3
  2103.      271       34.2
  2342.      269       34.3
  2601.      274       25.5
  2696.      266       22.8
  2948.      249       11.9

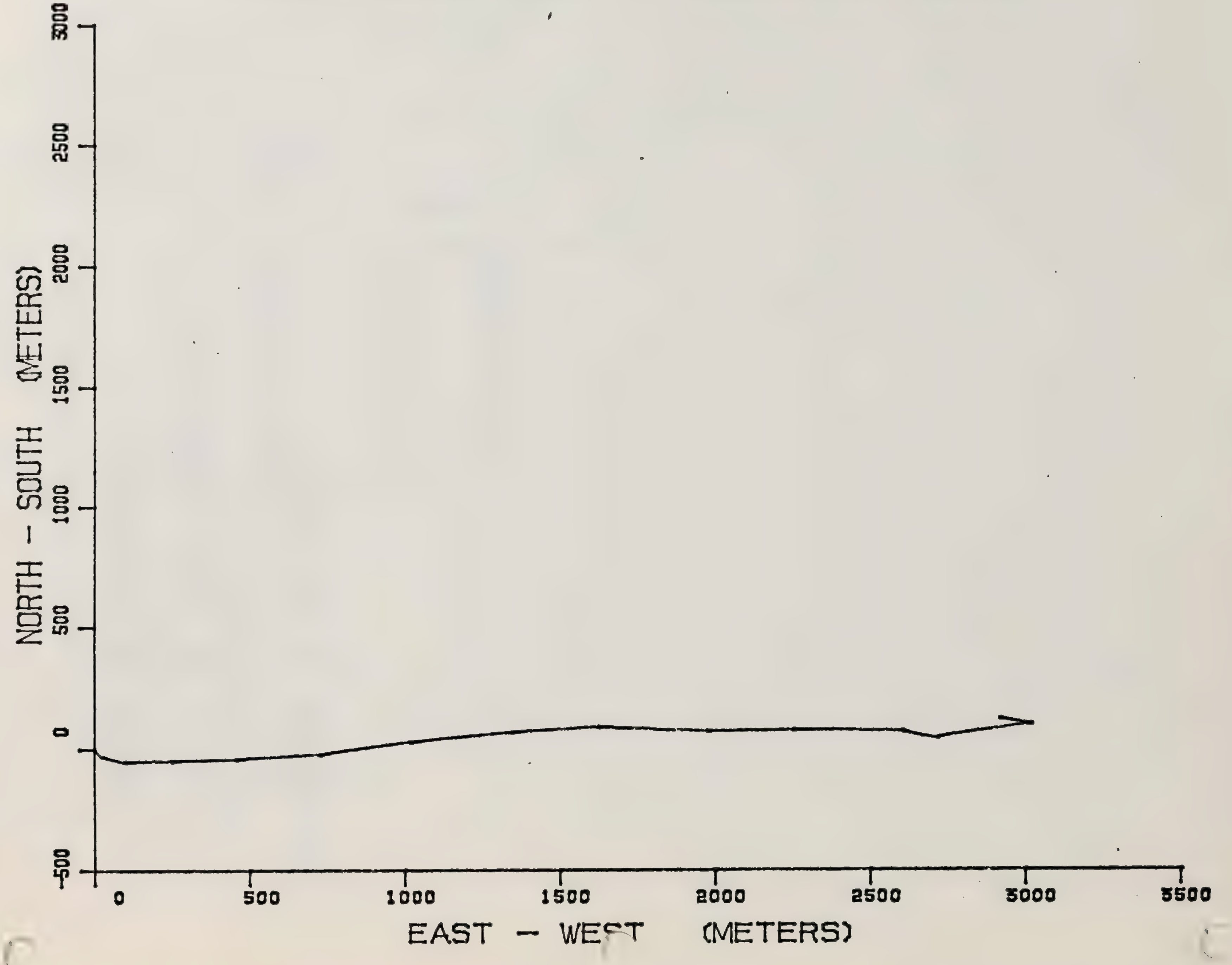
 HEIGHT  DIRECTION   SPEED   TEMP
 METERS   DEGREES    M/SEC

   105.      297        1.9
   184.      275        3.7
   243.      268        5.9
   318.      266        8.0
   383.      262        9.4
   453.      261       10.4
   515.      264       10.2
   568.      269       10.5
   641.      271       10.4
   714.      269       10.5
   793.      274        7.8
   822.      266        6.9
   899.      249        3.6
```

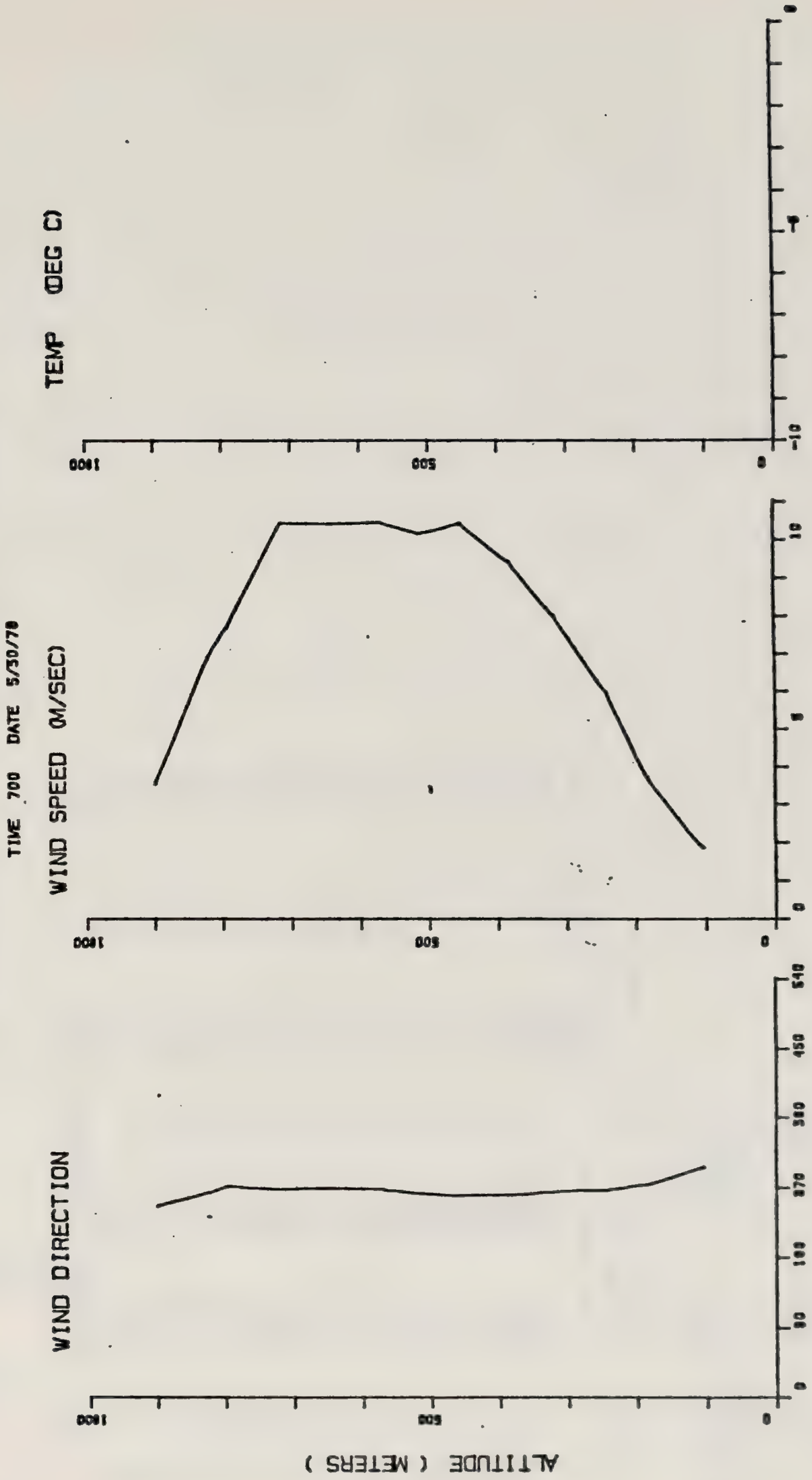
C–B SOUNDING – PLOTTED ON 21/JUL/78

TIME 700 DATE 5/30/78

PIBAL TRAJECTORY – LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 21/JUL/78



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C-B PIBAL SOUNDING                        RUN ON 21/JUL/78

SOUNDING DATE  5-30-78

BALLOON RELEASED 1330 CST


BASE LINE ANGLE             239.5
BASE LINE LENGTH (FT)      5426.5
TIME INTERVAL (SEC)          30.0
BASE LINE HEIGHT (FT)       100.0

             THEODOLITE #1               THEODOLITE #2


   TIME      AZIMUTH  ELEVATION        AZIMUTH  ELEVATION    TEMP
    .0          .0        .0             59.5       -.0        .0
    .5       160.0      57.7             61.0       2.6      17.0
   1.0       155.1      44.9             64.0       4.4      16.0
   1.5       149.2      48.8             66.9       8.3      16.0
   2.0       150.2      54.9             69.0      12.8      15.0
   2.5       146.1      52.8             71.5      15.4      15.0
   3.0       144.6      49.8             74.0      17.9      13.0
   3.5       143.1      50.5             76.2      19.3      13.0
   4.0       142.1      49.0             79.4      21.9      12.0
   4.5       136.4      48.9             80.7      23.3      11.0
   5.0       133.4      50.2             81.3      25.1      10.0
   5.5       126.2      51.3             80.5      26.2       9.0
   6.0       115.3      53.4             78.1      27.0       9.0
   6.5       103.0      54.7             74.7      27.6       8.0
   7.0        88.1      54.2             70.5      28.0       7.0
   7.5        75.0      51.4             66.3      27.8       6.0
   8.0        65.1      48.5             62.1      27.5       6.0
   8.5        57.6      45.5             58.4      26.8       5.0
   9.0        51.4      42.4             55.1      26.0       4.0
   9.5        47.3      39.7             52.2      25.3       3.0
  10.0        43.3      37.7             49.3      24.8       2.0
  10.5        40.7      35.7             47.2      24.6       2.0
  11.0        38.7      33.7             45.4      23.7       1.0
  11.5        36.8      31.6             43.6      22.9        .0
  12.0        35.1      30.0             41.7      22.1      -1.0
COMPARISON OF REAL ERROR WITH 0.1 DEG. ERROR

  TIME      RHO       ERROR


     1       62.2       5.0
     2       64.5       5.3
     3       61.4       5.8
     4       33.3       6.3
     5       64.0       6.9
     6      159.1       7.4
     7       61.2       7.8
     8       93.6       8.6
     9       85.7       9.3
    10       81.2      10.0
    11       80.1      10.7
    12       14.4      11.5
    13        8.5      12.3
    14       25.7      13.4
    15       33.5      14.9
```
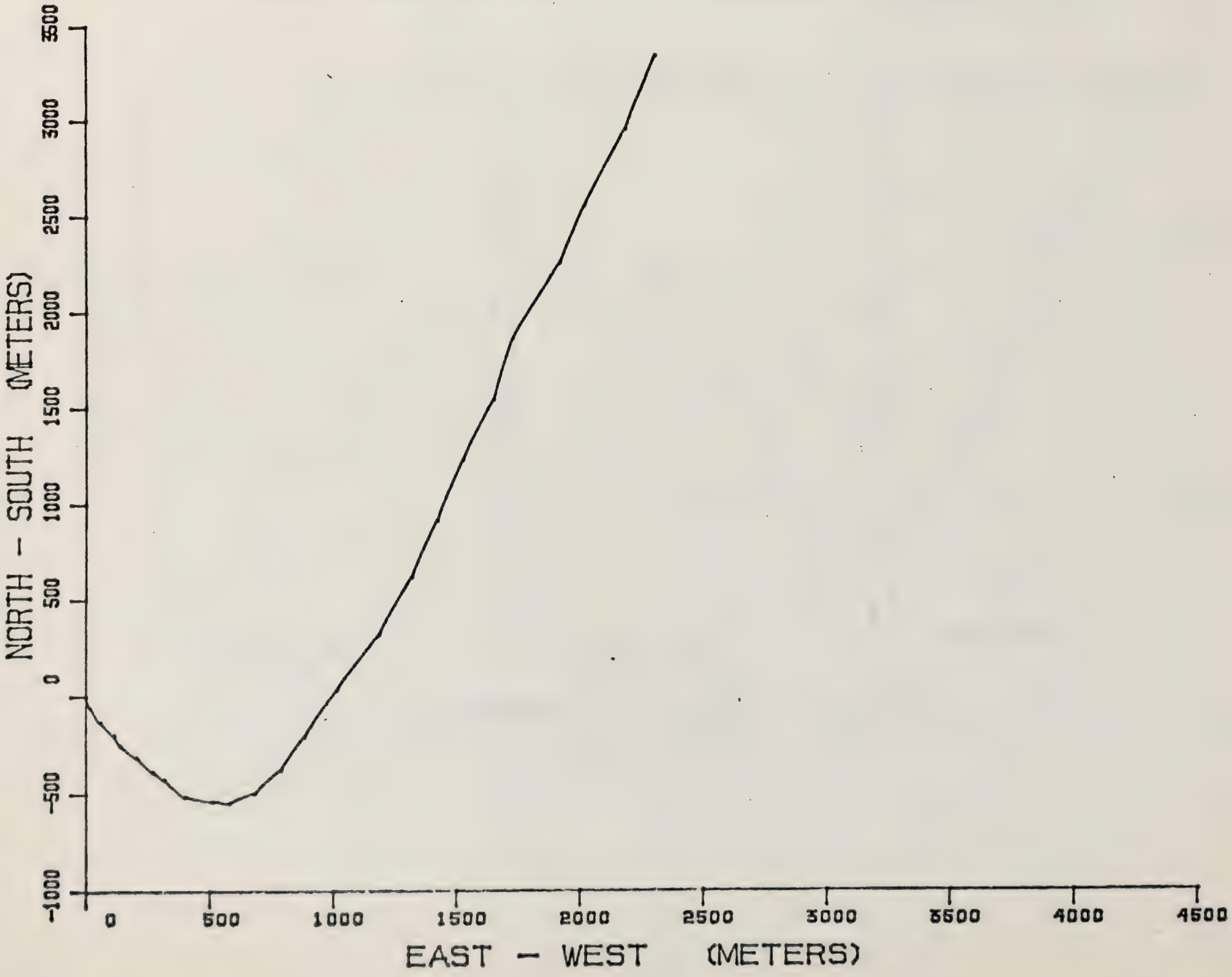

```
16        4.3       16.3
17       26.8       17.6
18        1.8       19.1
19       58.8       20.7
20       98.0       22.3
21       64.1       24.8
22       91.3       26.3
23       77.5       28.6
24      168.4       30.6

      HEIGHT   DIRECTION   SPEED   TEMP
       FEET     DEGREES    FT/SEC

        314.      336        7.8   17.0
        475.      326        9.2   16.0
        865.      326        7.7   16.0
       1333.      322        7.8   15.0
       1620.      316       10.2   15.0
       1881.      317        8.8   13.0
       2128.      316       10.1   13.0
       2498.      301       12.3   12.0
       2827.      281       10.0   11.0
       3173.      258        9.7   10.0
       3514.      231       15.0    9.0
       3884.      214       19.4    9.0
       4215.      209       25.4    8.0
       4635.      210       32.9    7.0
       5048.      207       35.9    6.0
       5410.      201       34.9    6.0
       5642.      198       35.1    5.0
       5866.      200       36.6    4.0
       6144.      197       36.3    3.0
       6413.      200       41.5    2.0
       6959.      202       40.8    2.0
       7082.      200       40.4    1.0
       7371.      200       45.2     .0

      HEIGHT   DIRECTION   SPEED   TEMP
      METERS    DEGREES    M/SEC

         96.      336        2.4   17.0
        145.      326        2.8   16.0
        264.      326        2.3   16.0
        406.      322        2.4   15.0
        494.      316        3.1   15.0
        573.      317        2.7   13.0
        649.      316        3.1   13.0
        761.      301        3.7   12.0
        862.      281        3.0   11.0
        967.      258        3.0   10.0
       1071.      231        4.6    9.0
       1184.      214        5.9    9.0
       1285.      209        7.7    8.0
       1413.      210       10.0    7.0
       1539.      207       10.9    6.0
       1649.      201       10.6    6.0
       1720.      198       10.7    5.0
       1788.      200       11.2    4.0
```

```
1873.      197        11.1   3.0
1955.      200        12.6   2.0
2121.      202        12.4   2.0
2159.      200        12.3   1.0
2247.      200        13.8    .0
```

C-B SOUNDING — PLOTTED ON 21/JUL/78

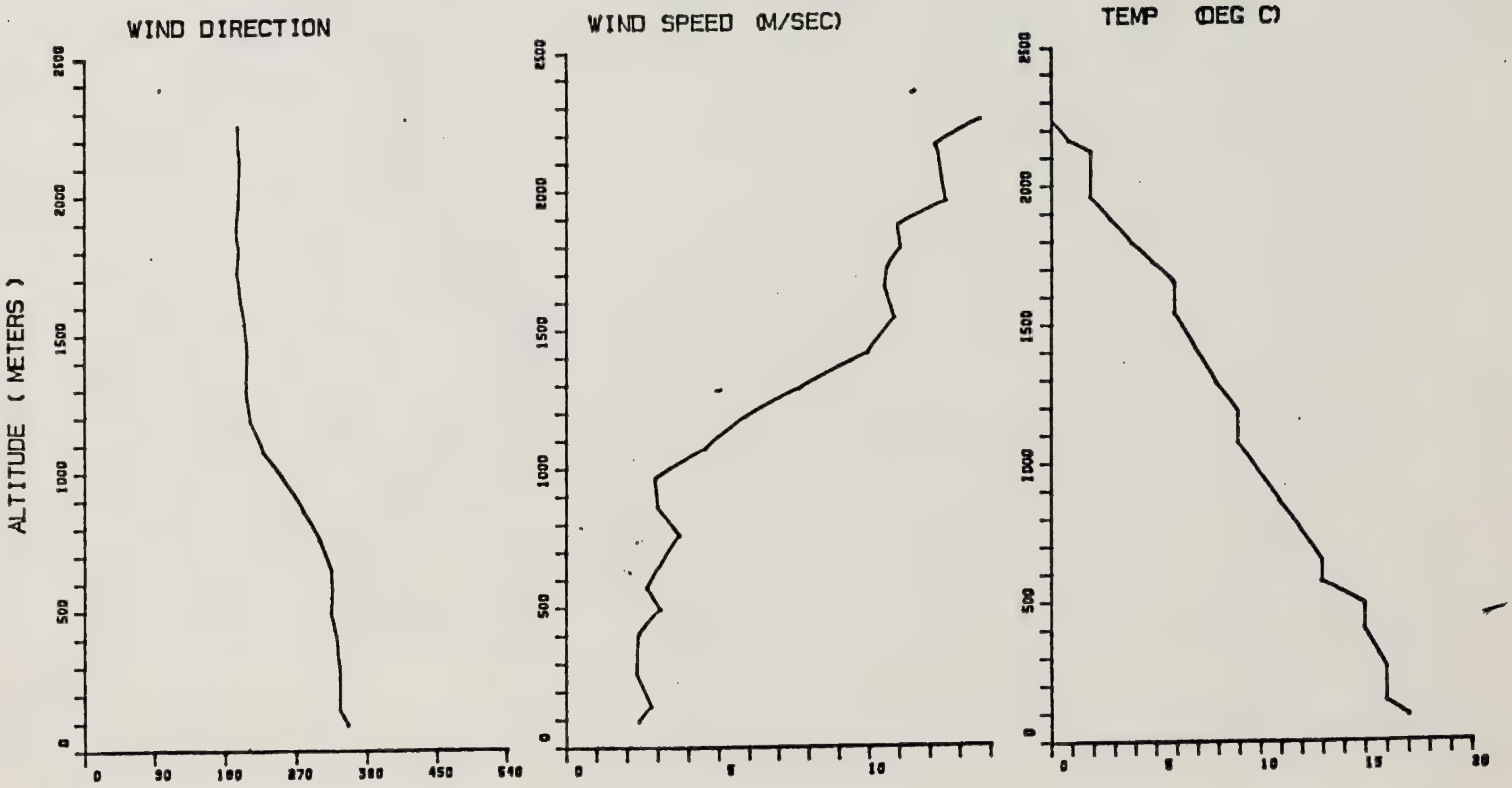
TIME 1330 DATE 5/30/78

PIBAL TRAJECTORY — LAUNCH AT ORIGIN



C-B SOUNDING — PLOTTED ON 21/JUL/78

TIME 1330 DATE 5/30/78



PRECIPITATION
CM *100

CB-TRACT
TRAILER 23
MAY 1978
OCCIDENTAL OIL SHALE INC.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TL	PEAK
1	(TR)	(TR)	(TR)	(TR)	(TR)	3	(TR)	(TR)	3									8	15						28	15
2																										
3																										
4																		(TR)	(TR)	(TR)	3				3	3
5							(TR)	5	3		3										5	3			18	5
6																					(TR)	(TR)	(TR)	(TR)		
7	(TR)	(TR)	(TR)	3	5	10	8	(TR)						(TR)				15	(TR)	(TR)	(TR)	(TR)	(TR)	3	43	15
8	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3				10	8	(TR)											20	10
9																										
10																										
11																										
12																										
13																										
14																										
15																										
16																										
17	(TR)	5	5	10	3	5	5	8	20	(TR)	(TR)	3	(TR)	3	3		10	3	13	10	3				107	20
18							(TR)	5	5																10	5
19																										
20																										
21								5	(TR)					58	23				(TR)	3	(TR)	(TR)	(TR)	(TR)	89	58
22																										
23																										
24																										
25																										
26																										
27																										
28																										
29																										
30																										
31																										
TL		5	5	13	8	18	13	25	30		3	13	8	61	25		10	25	28	13	10	3		3	317	
PK		5	5	10	5	10	8	8	20		3	10	8	58	23		10	15	15	10	5	3		3		58

PRECIPITATION
CM *100

CB-TRACT
TRAILER 20
MAY 1978
OCCIDENTAL OIL SHALE INC.

HOUR (LOCAL STANDARD TIME)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TL	PEAK
1	(TR)	(TR)	3	(TR)	(TR)	3	(TR)	3				5	8					43	15						79	43
2																				(TR)	(TR)	(TR)	(TR)	(TR)		
3	(TR)	3	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3		3									(TR)	(TR)	(TR)	(TR)	(TR)	3	3
4	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3													3	(TR)	(TR)	5	10	5
5	(TR)	3	3	(TR)	(TR)	3	3	3												(TR)	(TR)	3	(TR)	(TR)	15	3
6	(TR)	(TR)	(TR)	(TR)	(TR)	3														(TR)	(TR)	(TR)	(TR)	(TR)	3	3
7	(TR)	3	(TR)	10	5	8	5	5	3									13						3	53	13
8	8	(TR)	(TR)	(TR)	(TR)	3																			10	8
9																										
10																										
11																										
12																										
13																										
14																										
15																										
16																										
17	3	3	8	10	10	10	10	10			(TR)	18	(TR)	(TR)	(TR)	(TR)	(TR)	3	18	18	(TR)	(TR)	(TR)	3	122	13
18																			(TR)	(TR)	3	(TR)	(TR)	3	5	3
19																			(TR)	(TR)	(TR)	(TR)	(TR)	3	3	3
20																			(TR)	(TR)	(TR)	(TR)	(TR)	(TR)		
21	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3	3						69	5										79	69
22																										
23																										
24																										
25																										
26																										
27																										
28																			(TR)	(TR)	(TR)	(TR)	(TR)	3	3	3
29																								5	5	5
30	(TR)	(TR)	(TR)	3	(TR)	(TR)																			3	3
31																(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	(TR)	3	3	3
TL	10	10	13	23	15	28	20	25	5		3	23	8	69	5			58	33	18	5	3		25	399	
PK	8	3	8	10	10	10	10	10	3		3	18	8	69	5			43	18	18	3	3		5		69

Evaporation Data

C-b Tract
Trailer 23
May 1978
Occidental Oil Shale, Inc.

Sample Period	Total Evaporation (cm)	Precipitation (cm)	Total Wind (km)	Max. Temp. (c)	Min. Temp. (c)
5/12-5/15	2.26		344.7	28	4
16- 17	1.62	.59	413.2	25	3
18- 19	- .16	.58	138.7	23	-1
20- 22	- .05	.89	261.7	20	4
23- 24	1.91		423.8	22	5
25- 26	1.92		353.2	20	4
27- 30	2.78		399.6	24	7
31	.96		131.9	22	5

SECTION 3.0

AIR QUALITY

HYDROGEN SULFIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 28/JUL/78   *
*                    *
**********************
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	0	0	0	0	0	4
2	0	0	0	0	0	0	0	0	1	3	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	3
3	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	(CA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	( )
SD	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	( )

AQOUT (15 MAY 78)

```
SULFUR DIOXIDE

MICROGRAMS/CUBIC METER
                                                           C-B OIL SHALE PROJECT, COLORADO      ***********************
                                                                                                *                     *
                                                           SITE   23                            *     FINAL DATA      *
                                                                                                *  AS OF 28/JUL/78    *
                                                           MAY, 1978                            *                     *
                                                                                                ***********************
                                                           AEROVIRONMENT INC.


                                          CLOCK HOUR  (LOCAL STANDARD TIME)


DAY     00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23   AVE  PEAK


  1      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
  2      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
  3      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
  4      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
  5      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
  6      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
  7      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
  8      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
  9      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 10      0     0     0     0     0     0     0     0     0  [MT]  [MT]  [MT]  [MT]  [MT]     0     0     0     0     0     0     0     0     0     0     0     0
 11      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 12      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 13      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 14      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 15      0     0     0     0     0     0     0     0     0     0  [CA]     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 16      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 17      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 18      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 19      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 20      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 21      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 22      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 23      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 24      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 25      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 26      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 27      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 28      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 29      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 30      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
 31      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0

 AV      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0   [ ]
 SD      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0   [ ]

ADOUT    (15 MAY 78)
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TOTAL HYDROCARBONS

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 10/AUG/78

CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	1507	1441	1507	1507	1507	1572	1703	1965	2162	2293	2358	2293	2031	1376	1245	1441	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	1744	2358
2	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
3	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
4	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
5	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	1572	1638	1638	1703	1703	1245	1179	1245	1310	1245	1179	1310	1310	1245	1245	1384	1703
6	1310	1310	1441	1376	1376	1376	1310	1638	1703	1769	1965	1965	1900	1900	1965	1965	1834	1769	1572	1376	1376	1376	1441	1507	1605	1965
7	1507	1441	1507	1638	1572	1507	1441	1572	1703	1703	1769	1834	1769	1834	1769	1769	1638	1703	1638	1572	1572	1572	1572	1638	1635	1834
8	1572	1572	1572	1572	1638	1638	1703	1703	2031	2162	1769	1638	1769	1703	1376	983	1179	1310	1376	1376	1376	1638	1441	1376	1561	2162
9	1441	1441	1441	1441	1507	1572	1703	1965	2227	1769	1245	1441	1507	1572	1376	1441	1572	1507	1507	1572	1638	1638	1507	1638	1569	2227
10	1703	1572	1834	1769	[IM]	1703	1769	1572	1638	[MT]	[MT]	[MT]	[MT]	[MT]	983	1048	1245	1179	1310	1179	1048	1245	1179	1376	1408	1834
11	1376	1441	1245	1114	1507	1638	1638	1638	1638	1638	1441	1245	1048	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	1441	1507	1310	1376	1310	1419	1638
12	1310	1245	1310	1048	1179	1310	1441	1572	1769	2293	2162	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	1513	2293
13	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
14	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
15	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[MT]	[MT]	[MT]	[CA]	983	1179	1310	1638	1572	1703	1703	1703	1900	1965	1566	1965
16	1900	2031	1900	2031	2162	1965	2031	2031	1965	1900	1900	1834	1507	1441	1507	1507	1638	1507	1507	1441	1376	1441	1507	1441	1728	2162
17	1507	1507	1507	1507	1441	1507	1572	1572	1638	1245	1441	1638	1638	1507	983	983	1114	1179	1310	1376	1310	1310	1441	1376	1400	1638
18	1376	1376	1507	1376	1376	1441	1572	1769	1703	1114	1245	1376	1441	1507	1507	1376	1441	1572	1638	1572	1507	1507	1441	1507	1469	1769
19	1441	1572	1507	1507	1507	1441	1638	1179	1310	1572	1703	1703	1703	[CA]	983	1179	1376	1376	1572	1638	1572	1507	1441	1507	1475	1703
20	1507	1507	1441	1441	1441	1572	1507	1703	1900	2096	2162	2293	2096	1900	1769	1769	1769	1769	1834	1834	1703	1572	1572	1507	1736	2293
21	1441	1441	1507	1507	1638	1572	1638	1507	1572	1638	1638	1638	1638	1507	1376	1376	1441	1376	1179	917	852	852	852	917	1376	1638
22	1048	983	1114	1114	1114	1114	1179	1245	1310	1507	[CA]	1048	1114	1179	1376	1572	1638	1572	1572	1703	1507	1572	1703	1572	1342	1703
23	1572	1638	1507	1572	1572	1638	1703	1703	1900	1310	1179	1310	1441	1441	1376	[CA]	[CA]	[CA]	[CA]	983	1048	1114	1179	1179	1418	1900
24	1048	1245	1245	1179	1114	1179	1179	1245	1310	1048	721	852	917	917	917	917	1114	1245	1310	1376	1441	1441	1441	1572	1166	1572
25	1507	1703	1769	1965	2031	1900	1965	2031	2358	2358	2227	2227	2031	1638	1179	1245	1376	1376	1507	1507	1507	1572	1638	1572	1758	2358
26	1441	1507	1572	1703	1638	1703	1769	2031	2293	2620	2555	2293	2162	[CA]	[CA]	[CA]	852	917	1179	1310	1245	1376	1310	1376	1660	2620
27	1441	1376	1572	1703	1703	1834	1769	1900	2031	2293	2424	2424	2424	2227	2096	1965	1900	1834	1507	[IM]	[IM]	[IM]	[IM]	[IM]	1917	2424
28	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
29	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
30	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[MT]	[MT]	[CA]	1769	1900	1965	1900	1900	1834	1900	1965	1834	1885	1965
31	1769	1703	1638	1638	1834	1572	1572	1638	1900	1834	1245	1376	1572	1507	1245	1441	1507	2293	2424	2424	2358	2227	2293	2358	1807	2424
AV	1463	1479	1507	1510	1543	1560	1610	1675	1812	1797	1739	1703	1671	1580	1363	1405	1454	1520	1533	1494	1466	1485	1497	1513	1564	[ ]
SD	193	204	183	253	259	206	213	249	301	424	473	434	371	289	326	314	278	308	279	321	305	273	296	286	185	[ ]

AQOUT [15 MAY 78]

METHANE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 04/AUG/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	852	786	852	852	852	852	852	983	983	917	983	917	983	852	852	852	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	889	983
2	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
3	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
4	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
5	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	1048	1048	983	1048	1048	917	917	917	917	917	917	917	917	917	917	956	1048
6	917	917	917	917	917	917	917	917	983	983	983	983	983	983	983	983	983	983	983	917	917	917	917	917	947	983
7	983	917	917	983	983	917	917	983	1048	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	975	1048
8	983	983	983	983	983	983	983	983	983	983	917	917	983	983	917	852	852	917	917	917	917	917	917	917	945	983
9	917	917	917	917	917	983	1048	1048	1048	983	917	983	983	917	917	917	983	917	852	917	983	917	917	983	950	1048
10.	983	917	983	983	917	917	983	917	917	(MT)	(MT)	(MT)	(MT)	(MT)	852	852	852	852	852	852	852	852	852	917	900	983
11	917	852	852	917	852	852	917	917	917	917	917	852	852	852	852	852	852	852	852	917	917	917	917	917	884	917
12	917	917	852	786	786	852	917	917	1114	1048	983	917	917	917	917	917	917	917	917	917	983	917	917	917	920	1114
13	917	917	917	917	917	917	917	983	917	983	917	917	917	917	917	917	852	852	852	852	852	852	852	786	898	983
14	786	852	917	852	852	852	852	786	852	786	852	852	852	852	852	852	917	917	917	983	917	983	917	917	874	983
15	852	852	917	917	917	852	852	852	852	852	(MT)	(MT)	(MT)	(CA)	852	852	852	917	983	917	983	983	983	1048	904	1048
16	1048	1048	1048	1048	1048	1048	1048	1048	1048	1114	1048	1048	917	917	917	983	983	983	983	917	917	917	917	917	996	1114
17	917	917	917	917	917	917	917	983	917	917	917	917	917	917	917	852	852	852	852	852	852	852	852	852	895	983
18	786	786	786	786	786	852	852	983	786	852	852	950	852	917	917	917	917	852	917	852	852	852	917	852	861	983
19	917	917	917	917	917	852	852	989	786	983	917	852	852	(CA)	852	852	852	852	852	917	917	852	852	852	883	989
20	852	852	786	786	852	852	852	852	852	917	852	917	917	917	917	983	917	983	917	917	917	852	852	852	882	983
21	786	786	852	852	852	852	852	852	852	917	917	917	917	852	852	852	852	852	721	721	721	721	721	655	822	917
22	721	721	721	721	721	721	721	721	721	721	(CA)	786	786	786	852	917	917	917	852	917	852	917	852	852	801	917
23	786	852	852	852	852	852	852	917	917	917	917	852	917	917	852	852	655	655	655	721	721	655	721	721	811	917
24	655	655	721	721	721	721	721	721	721	721	655	655	655	655	655	786	786	786	852	786	852	917	852	852	743	917
25	786	852	852	786	786	852	786	786	786	786	721	786	786	786	786	786	852	786	786	786	786	786	852	852	800	852
26	786	786	786	852	852	852	852	852	852	786	721	786	786	(CA)	(CA)	(CA)	(CA)	655	721	721	721	721	721	721	776	852
27	721	721	721	786	721	721	721	786	917	852	786	721	721	655	655	655	655	655	590	(IM)	(IM)	(IM)	(IM)	(IM)	724	917
28	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
29	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
30	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(MT)	(MT)	(CA)	655	655	786	852	852	917	917	917	917	830	917
31	852	852	852	852	917	786	786	786	917	786	852	917	852	852	786	786	786	590	655	721	721	852	786	721	803	917
AV	860	857	868	871	868	865	874	898	904	906	893	887	886	880	865	865	860	849	849	865	874	874	871	868	872	( )
30	95	86	83	83	83	78	88	96	102	103	100	91	92	96	80	85	95	109	106	80	84	82	72	91	70	( )

AQOUT (15 MAY 78)

HYDROCARBONS (CORRECTED FOR CH4)

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

****
FINAL DATA
AS OF 10/AUG/78
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	655	655	655	655	655	721	852	983	1179	1376	1376	1376	1048	524	393	590	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	856	1376
2	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
3	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
4	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
5	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	524	590	655	655	655	328	262	328	393	328	262	393	393	328	328	428	655
6	393	393	524	459	459	459	393	721	721	786	983	983	917	917	983	983	852	786	590	459	459	459	524	590	658	983
7	524	524	590	655	590	590	524	590	655	721	786	852	786	852	786	786	655	721	655	590	590	590	590	655	661	852
8	590	590	590	590	655	655	721	721	1048	1179	852	721	786	721	459	131	328	393	459	459	459	721	524	459	617	1179
9	524	524	524	524	590	590	655	917	1179	786	328	459	524	655	459	524	590	590	655	655	655	721	590	655	620	1179
10	721	655	852	786	(IM)	786	786	655	721	(MT)	(MT)	(MT)	(MT)	(MT)	131	197	393	328	459	328	197	393	328	459	510	852
11	459	590	393	197	655	786	721	721	721	721	524	393	197	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	524	590	393	459	393	524	786
12	393	328	459	262	393	459	524	655	655	1245	1179	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	596	1245
13	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
14	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
15	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(MT)	(MT)	(MT)	(CA)	131	328	459	721	590	786	721	721	917	917	629	917
16	852	983	852	983	1114	917	983	983	917	786	852	786	590	524	590	524	655	524	524	524	459	524	590	524	732	1114
17	590	590	590	590	524	590	655	590	721	328	524	721	721	590	66	131	262	326	459	524	459	459	590	524	505	721
18	590	590	721	590	590	590	721	786	917	262	393	426	590	590	590	459	524	721.	721	721	655	655	524	655	608	917
19	524	655	590	590	590	590	786	190	524	590	786	852	852	(CA)	131	328	524	524	721	721	655	655	590	655	592	852
20	655	655	655	655	590	721	655	852	1048	1179	1310	1376	1179	983	852	786	852	786	917	917	786	721	721	655	854	1376
21	655	655	655	655	786	721	786	655	721	721	721	721	721	655	524	524	590	524	459	197	131	131	131	262	554	786
22	328	262	393	393	393	393	459	524	590	786	(CA)	262	328	393	524	655	721	655	721	786	655	655	852	721	541	852
23	786	786	655	721	721	786	852	786	983	393	262	459	524	524	524	(CA)	(CA)	(CA)	(CA)	262	328	459	459	459	586	983
24	393	590	524	459	393	459	459	524	590	328	66	197	262	262	262	131	328	459	459	590	590	524	590	721	423	721
25	721	852	917	1179	1245	1048	1179	1245	1572	1572	1507	1441	1245	852	393	459	524	590	721	721	721	786	786	721	958	1572
26	655	721	786	852	786	852	917	1179	1441	1834	1834	1507	1376	(CA)	(CA)	(CA)	(CA)	262	459	590	524	655	590	655	924	1834
27	721	655	852	917	983	1114	1048	1114	1114	1441	1638	1703	1703	1572	1441	1310	1245	1179	917	(IM)	(IM)	(IM)	(IM)	(IM)	1193	1703
28	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
29	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	( )	( )
30	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(IM)	(MT)	(MT)	(CA)	1114	1245	1179	1048	1048	917	983	1048	917	1055	1245
31	917	852	786	786	917	786	786	852	983	1048	393	459	721	655	459	655	721	1703	1769	1703	1638	1376	1507	1638	1005	1769
AV	602	624	646	643	681	696	736	773	905	886	845	817	786	701	501	544	621	668	682	637	599	618	630	646	693	( )
SD	153	165	149	226	228	186	196	240	278	428	479	434	369	281	320	322	272	339	308	318	296	246	280	276	204	( )

ADOUT (15 MAY 78)

CARBON MONOXIDE

MILLIGRAMS PER CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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*     FINAL DATA     *
*  AS OF 28/JUL/78   *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	.3	.3	.3	.3	.5	.5	.3	.3	.5	.5	.5	.3	.3	.5	.5	.7	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	.4	.7
2	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
3	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
4	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
5	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3
6	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
7	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
8	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
9	.2	.2	.2	.3	.3	.3	.2	.3	.2	.6	.3	.3	.2	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.6
10	.2	.2	.2	.2	.2	.2	.2	.2	.2	[MT]	[MT]	[MT]	[MT]	[MT]	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
11	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
12	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.3	.2	.2	.2	.3	.3	.2	.3	.2	.2	.3
13	.3	.2	.2	.3	.2	.2	.3	.3	.3	.2	.2	.2	.2	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3
14	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.2	.3
15	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	[MT]	[MT]	[MT]	[CA]	.2	.2	.2	.2	.2	.3	.2	.2	.2	.2	.2	.3
16	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2
17	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.8	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.8
18	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.6	.3	.3	.3	.3	.3	.3	.5	.3	.6
19	.3	.3	.3	.3	.3	.3	.3	.5	.5	.5	.3	.5	.5	[CA]	1.8	1.4	1.4	1.3	1.3	1.4	1.5	1.1	1.1	1.1	.8	1.8
20	1.0	1.0	1.0	.9	.9	.9	1.0	.8	.8	.8	1.3	1.0	1.1	1.1	1.1	1.1	1.3	1.4	1.5	1.3	1.3	1.1	1.0	1.0	1.1	1.5
21	.9	.9	.9	.8	.9	.9	.9	.9	.8	.8	.8	.8	1.0	1.0	1.0	1.0	.9	.9	.9	.9	.9	.9	.9	.8	.9	1.0
22	.9	.8	.9	.9	.9	.9	.8	.8	.8	.9	[CA]	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.5	.9
23	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
24	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.6	.6	.6	.7	.6	.5	.3	.3	.3	.7
25	.3	.3	.3	.3	.5	.3	.3	.3	.3	.5	.5	.6	.8	.6	.2	.3	.3	.3	.3	.3	.3	.2	.3	.3	.4	.8
26	.3	.3	.3	.3	.3	.3	.3	.5	.3	.3	.3	.3	.3	[CA]	[CA]	[CA]	[CA]	.2	.5	.2	.2	.2	.2	.2	.3	.5
27	.3	.6	.2	.5	.2	.2	.3	1.1	3.0	1.7	.9	.7	.9	.6	.3	.3	.5	.5	.6	[IM]	[IM]	[IM]	[IM]	[IM]	.7	3.0
28	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
29	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
30	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[MT]	[MT]	[CA]	1.3	1.4	1.6	1.7	1.7	1.8	1.8	.2	1.9	1.5	1.9
31	1.8	1.8	1.6	1.1	1.1	1.1	1.0	1.0	1.3	1.0	1.1	1.0	.9	.9	.9	.8	.8	.7	.7	.7	.7	.7	.8	.7	1.0	1.8
AV	.4	.4	.4	.4	.4	.4	.3	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.5	.4	.3	.4	.4	[ ]
SD	.4	.4	.4	.3	.3	.3	.3	.3	.6	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.5	.4	.3	.4	.3	[ ]

AHOUT [15 MAY 78]

OXIDES OF NITROGEN

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 28/JUL/78   *
*                    *
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CLOCK HOUR [LOCAL STANDARD TIME]

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	2	0	4	2	2	2	2	2	2	0	2	2	2	4	4	4	4	2	2	2	0	4	2	2	2	4
2	2	0	0	2	0	0	2	2	2	2	2	2	2	2	2	0	0	2	2	2	4	2	4	2	2	4
3	2	2	0	2	2	2	2	2	4	2	2	2	2	2	2	0	0	0	0	0	0	0	2	2	1	4
4	2	2	2	4	2	2	2	2	2	2	4	2	2	2	0	0	2	2	4	2	4	4	4	4	2	4
5	2	2	2	2	4	2	2	2	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	[MT]	[MT]	[MT]	[MT]	[MT]	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[ ]
SD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	[ ]

AQOUT [15 MAY 78]

NITRIC OXIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 28/JUL/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	4	5	5	4	5	4	5	5	5	4	5	5	5	5	6	4	5	5	5	4	5	5	5	4	5	6
2	4	4	5	4	5	5	5	5	5	6	5	6	6	6	6	6	5	5	5	5	6	6	6	6	5	6
3	5	4	5	4	5	5	5	5	5	5	6	5	5	4	4	4	4	4	4	5	5	5	5	5	5	6
4	5	4	5	4	5	5	4	4	4	4	4	5	4	4	5	5	5	5	5	6	5	5	5	5	5	6
5	5	5	4	5	4	4	4	4	5	4	6	6	6	5	5	6	5	5	5	6	6	6	6	5	5	6
6	6	6	5	5	5	5	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6
7	5	5	5	6	6	5	7	6	6	5	5	5	6	5	6	6	5	5	5	5	5	6	5	6	5	7
8	5	5	5	6	5	5	6	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	5	6
9	4	4	4	4	4	6	4	4	4	4	4	4	5	4	4	5	5	5	4	4	4	5	5	5	4	6
10	5	4	4	5	5	5	5	4	5	[MT]	[MT]	[MT]	[MT]	[MT]	5	5	5	5	5	4	4	4	5	5	5	5
11	6	6	6	6	5	6	5	5	5	5	5	6	6	6	5	5	5	6	5	5	5	5	5	5	5	6
12	6	6	5	5	5	5	6	5	5	6	6	5	6	6	6	6	6	6	5	5	5	6	6	6	6	6
13	6	6	6	6	6	6	6	5	6	6	6	6	6	7	6	6	6	6	6	6	6	5	5	5	6	7
14	5	5	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	5	6
15	6	6	5	6	6	5	5	6	6	5	[CA]	6	5	5	6	6	6	6	6	6	6	5	5	6	6	6
16	6	5	6	6	6	6	6	6	5	5	6	5	5	6	6	6	5	5	6	5	6	5	6	5	6	6
17	5	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	6	6	6	5	5	5	6	6	6
18	6	6	6	6	6	6	6	6	6	7	6	6	6	6	5	5	6	6	5	6	6	6	6	6	6	7
19	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
20	6	6	6	6	6	6	6	6	6	6	6	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6
21	6	6	5	6	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
22	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
23	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
24	5	5	6	6	6	6	6	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
25	6	6	6	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	5	6	6	6	6	6	6
26	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
27	6	6	6	6	6	6	6	6	5	5	5	6	6	5	5	6	5	6	6	6	6	6	6	6	6	6
28	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
29	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
30	5	5	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6
31	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
AV	5	5	5	5	5	5	5	5	5	5	5	5	6	5	5	5	5	5	5	5	5	5	5	5	5	[ ]
SD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	[ ]

AQOUT [15 MAY 78]

NITROGEN DIOXIDE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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*                    *
*     FINAL DATA     *
*  AS OF 02/AUG/78   *
*                    *
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CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	[MT]	[MT]	[MT]	[MT]	[MT]	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	[CA]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[ ]
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[ ]

AQOUT [15 MAY 78]

OZONE

MICROGRAMS/CUBIC METER

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 28/JUL/78

CLOCK HOUR (LOCAL STANDARD TIME)

DAY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVE	PEAK
1	57	47	33	33	37	45	39	53	61	69	74	84	80	84	88	84	90	82	67	67	55	53	59	61	63	90
2	45	33	39	39	35	31	35	27	45	57	63	80	90	98	98	98	100	98	92	76	67	73	73	69	65	100
3	67	59	65	57	57	39	47	57	57	73	73	76	82	84	92	100	98	96	90	88	82	78	86	86	75	100
4	74	74	67	67	65	65	59	78	86	88	92	96	96	96	96	96	92	94	96	94	94	88	86	86	84	96
5	88	84	86	78	73	80	84	76	[CA]	86	90	90	92	94	96	98	94	94	96	90	86	82	71	67	86	98
6	76	78	96	98	88	84	88	98	102	104	106	108	108	102	102	104	108	102	96	86	84	86	80	82	94	108
7	84	74	65	84	80	78	76	78	78	80	84	84	84	84	86	80	86	86	78	74	63	47	39	39	75	86
8	59	59	59	67	69	53	49	53	71	78	82	86	88	94	94	94	100	104	98	98	82	82	73	78	78	104
9	86	82	86	88	86	82	76	82	96	106	106	106	92	[CA]	92	92	88	67	61	59	65	67	67	73	83	106
10	76	71	74	73	76	76	76	82	90	[MT]	[MT]	[MT]	[MT]	[MT]	98	98	98	98	98	86	90	78	88	76	84	98
11	84	76	82	84	84	88	96	106	106	114	122	125	118	122	129	127	114	116	118	114	108	98	86	80	104	129
12	84	78	67	69	71	74	84	94	98	102	102	104	112	108	108	108	104	100	98	78	88	88	84	84	91	112
13	63	86	84	86	86	84	82	86	94	88	84	84	84	80	84	84	78	69	61	59	59	59	55	59	77	94
14	59	59	67	65	65	65	61	69	86	94	102	106	104	108	108	108	114	116	110	102	88	84	88	90	88	116
15	92	88	88	88	90	92	96	98	108	118	[CA]	118	114	114	112	114	108	102	98	94	92	88	86	88	99	118
16	96	94	94	96	96	96	96	96	98	98	94	98	94	82	88	92	102	110	110	106	106	106	104	104	98	110
17	98	92	86	76	65	74	84	84	84	86	86	92	94	90	98	102	98	96	92	86	82	65	63	59	85	102
18	61	65	63	69	74	73	74	76	82	78	82	78	82	82	86	88	94	96	104	104	88	86	86	76	81	104
19	78	74	69	74	67	74	63	63	69	78	92	98	100	98	98	98	98	98	98	92	88	80	57	57	82	100
20	53	57	57	65	59	53	39	53	55	71	78	92	98	102	104	102	104	98	94	86	84	78	73	71	76	104
21	74	69	69	65	69	78	69	59	63	74	82	88	90	88	88	78	76	82	78	71	73	74	65	57	74	90
22	57	59	39	59	59	57	53	71	74	92	[CA]	98	104	104	96	96	100	100	104	96	86	90	92	88	81	104
23	86	92	92	96	92	96	88	86	90	96	98	94	94	96	96	[CA]	92	98	98	92	88	88	86	78	92	98
24	76	76	84	96	94	86	76	84	90	92	96	96	98	98	96	96	96	96	98	98	96	84	88	86	91	98
25	90	86	92	98	100	96	98	76	94	96	96	96	100	104	102	98	96	96	96	94	88	88	82	78	93	104
26	78	78	74	74	76	63	65	53	67	76	98	104	104	[CA]	104	104	104	100	102	96	86	78	86	86	85	104
27	73	63	67	73	76	69	63	59	82	86	96	96	96	96	98	98	98	96	96	98	90	84	74	59	83	98
28	57	65	69	69	74	69	59	55	71	76	76	78	82	84	88	92	90	88	86	86	71	69	74	76	75	92
29	65	57	63	69	69	67	67	59	67	84	94	96	94	96	96	98	96	98	98	92	84	84	88	78	82	98
30	88	74	74	69	57	59	59	74	88	[CA]	90	88	90	92	90	88	88	88	84	84	74	74	69	76	79	92
31	78	74	76	67	67	74	69	65	74	74	78	86	90	90	92	92	92	90	88	84	82	78	69	76	79	92
AV	74	72	72	74	73	72	70	73	81	87	90	94	95	95	97	97	97	95	93	88	83	79	77	75	83	[ ]
SD	14	14	16	15	15	16	17	17	16	14	12	11	10	10	9	10	9	11	13	13	12	12	13	13	9	[ ]

AOOUT [15 MAY 78]

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PARTICULATES (24 HR. AVG)
MICROGRAMS/CUBIC METER
                                        C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                             *                    *
                                                                             *     FINAL DATA     *
                                        MAY, 1978                            *  AS OF 31/JUL/78   *
                                                                             *                    *
                                        AEROVIRONMENT INC.                   **********************


                                  SITE

                     DAY    23    20    42    56.  PEAK

                       1  [  ]  [  ]  [  ]  [  ]  [  ]
                       2  [  ]  [  ]  [  ]  [  ]  [  ]
                       3  13.2  10.3  15.6   7.7  15.6
                       4  [  ]  [  ]  [  ]  [  ]  [  ]
                       5  [  ]  [  ]  [  ]  [  ]  [  ]
                       6    .0   1.9  [IM]  [IM]   1.9
                       7  [  ]  [  ]  [  ]  [  ]  [  ]
                       8  [  ]  [  ]  [  ]  [  ]  [  ]
                       9   4.5   4.7   6.6   3.8   6.6
                      10  [  ]  [  ]  [  ]  [  ]  [  ]
                      11  [  ]  [  ]  [  ]  [  ]  [  ]
                      12  18.0   9.8  36.9  16.2  36.9
                      13  [  ]  [  ]  [  ]  [  ]  [  ]
                      14  [  ]  [  ]  [  ]  [  ]  [  ]
                      15   8.5  24.7  [RF]  21.8  24.7
                      16  [  ]  [  ]  [  ]  [  ]  [  ]
                      17  [  ]  [  ]  [  ]  [  ]  [  ]
                      18  13.9   3.1  10.6   8.6  13.9
                      19  [  ]  [  ]  [  ]  [  ]  [  ]
                      20  [  ]  [  ]  [  ]  [  ]  [  ]
                      21  11.4   3.5   9.3   7.9  11.4
                      22  [  ]  [  ]  [  ]  [  ]  [  ]
                      23  [  ]  [  ]  [  ]  [  ]  [  ]
                      24  28.0  33.8  38.7  39.9  39.9
                      25  [  ]  [  ]  [  ]  [  ]  [  ]
                      26  [  ]  [  ]  [  ]  [  ]  [  ]
                      27  28.7  19.9  25.7  19.4  28.7
                      28  [  ]  [  ]  [  ]  [  ]  [  ]
                      29  [  ]  [  ]  [  ]  [  ]  [  ]
                      30  22.2  23.7  17.3  24.0  24.0
                      31  [  ]  [  ]  [  ]  [  ]  [  ]

                      AV  14.8  13.5  20.1  16.6  [  ]
                      GM  11.0   9.1  16.8  13.3  [  ]
                      PK  28.7  33.8  38.7  39.9  [  ]

A4OUT    [15 MAY 78]
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DATA REPORT

Final Submission

AIR QUALITY DATA

PROTOTYPE OIL SHALE LEASE TRACT C-b

Volume II

May 1978 Data

Submitted August 9, 1978

By

AeroVironment Inc.
145 Vista Avenue
Pasadena, California 91107

PREFACE

This volume is the final submission acquired during the air quality/ meteorology portions of the monitoring program for oil shale tract C-b. The period covered runs from 1 May through 31 May 1978.

This report is divided into two volumes. Volume I contains all of the basic data (hourly averages). Volume II contains all of the computer analysis reports.

TABLE OF CONTENTS

Section 1.0 - General

1.1 Introduction

1.2 Description of Reports
  - 1.2.1 Description of Reports
  - 1.2.2 Stability Class from ΔT Reports
  - 1.2.3 Wind Speed and Direction by Stability Class Report
  - 1.2.4 Five Maximum Independent Sliding Averages Report
  - 1.2.5 Monthly and Daily Averages
  - 1.2.6 Monthly and Daily Vectorial Wind Averages

1.3 Data Description
  - 1.3.1 Description of Data Symbols
  - 1.3.2 Data Acceptance Algorithm
  - 1.3.3 Data Precision and Lower Detection Limit
  - 1.3.4 AV Nomenclature for Components

Section 2.0 - Reports

2.1 Downtime hours by monthly % efficiency by parameter by site

2.2 Hourly table of stability class determined by ΔT

2.3 Wind speed and wind direction by stability class

2.4 Five maximum independent sliding averages

2.5 Monthly and daily averages

2.6 Monthly and daily vectorial wind averages

SECTION 1.0

GENERAL

1.0 GENERAL

1.1 Introduction

AeroVironment Inc. is performing an air quality and meteorological measurement program on the C-b shale oil tract for C-b Shale Oil Venture. Various parameters of air quality and meteorological data are collected at a network of sites. A listing of data collected during this month is contained in Section 1.3 of Volume I.

1.2 Description of Reports

1.2.1 Downtime Hours Report

This report calculates the numbers of hours of downtime by component and by site for each day. Downtime hours are:

MT (Maintenance)
FO (Flame Out)
IM (Instrument Malfunction)
PF (Power Failure)
RF (Recording Failure)
SE (Special Experiment)

Uptime hours are:

Numerical data values
CA (Calibration)
LI (Local Interference)
OS (Off Scale)
IN (Interference)
VA (Variable)
NV (Not Visible)

See section 1.3.1 for additional description of the letter codes. Hours before an instrument began operation are ignored. Percentage efficiency is the number of hours of uptime divided by total hours of data expected.

1.2.2 Stability Class from ΔT Report

Hourly values of stability class have been defined by using the Pasquill-Gifford stability classes. (Classes A – G) with Class A being the most unstable and Class G the most stable. They are determined from ΔT and corrected for wind speed according to the following formulas:

Class	ΔT (°C/100m)
A	< -1.9
B	- 1.9 to - 1.7
C	- 1.7 to - 1.5
D	- 1.5 to - 0.5
E	- 0.5 to 1.5
F	1.5 to 4.0
G	> 4.0

Wind Speed Adjustment

Stability From ΔT	Wind Speed (WS) m/s	"Adjusted Stability"
A	WS<2.00	A
	2.00<WS<5.00	B
	5.00≤WS<6.00	C
	WS≥6.00	D
B	WS<5.00	B
	5.00<WS<6.00	C
	WS≥6.00	D
C	WS<6.00	C
	WS≥6.00	D
D	ALL SPEEDS	D
E	WS<5.00	E
	WS≥5.00	D

Stability From ΔT	Wind Speed (WS) m/s	"Adjusted Stability"
F	$WS<3.00$	F
	$3.00 \le WS \le 5.00$	E
	$WS>5.00$	D

Letter codes are used when the stability class cannot be determined (as when there is no ΔT data). If the wind speed data does not exist, the stability class will still be determined, but it will not be corrected for wind speed. These hours can be determined by looking for the malfunction codes in the next report, "Wind Speed and Direction by Stability Class".

1.2.3 Wind Speed and Direction by Stability Class Report

The hourly wind speed and direction (unit vector averaged) is determined for each hour of stability class data. A separate report is produced for each stability class, so wind speed and direction will only be printed in the hours where that particular stability class exists. If wind speed data does not exist, a malfunction code (see Section 1.3.1) will be printed in its place. The stability class will still be determined on the stability class report, however it will not be corrected for wind speed. If wind direction data does not exist, malfunction codes are printed in their place. Since a separate report is prepared for each stability class, blanks between brackets indicate that the hour in question is not the stability class of that report.

1.2.4 Five Maximum Independent Sliding Averages Report

The five highest sliding averages in a month are determined for each of the various air quality parameters for the periods for which there is a standard:

Component	Averaging Time
Ozone	1 hour
Carbon Monoxide	1 hour, 8 hours
Sulfur Dioxide	3 hours, 24 hours
Particulates	24 hours
Hydrocarbon (corrected for methane)	3 hours (6-9 am only)

The average is a "sliding average" for all averaging periods greater than 1 hour. Thus the first 8 hour average checked would be hours 00 through 07, the second one checked would be 01 through 08, and so forth. After the highest average has been determined, none of those values (8 in the case of an 8 hour average) would be used to determine the second highest average. Thus, a single high hourly average will only effect a single independent sliding average, no matter what the averaging period is.

The minimum sample size for determining these averages is:

Time Interval	Minimum number of observations
3-hour running average	3 consecutive hourly observations
8-hour running average	6 hourly observations
24-hour	18 hourly observations
Monthly	21 daily averages
Quarterly	3 consecutive monthly averages
Yearly	9 monthly averages with at least two monthly averages per quarter.

(From the EPA Quality Assurance Handbook).

1.2.5 Monthly and Daily Averages

A separate report was created to produce daily and monthly averages of all parameters. Unlike the averages printed on the hourly tables (in Volume I), the averages in this report must have 50% of the values except for temperature and relative humidity which require 75% because of possible diurnal bias.

1.2.6 Monthly and Daily Vectorial Wind Averages Report

This report calculates true vectorial wind averages for both wind speed and direction. The hourly tables in Volume I use a standard mean for wind speed and a unit vector average (vectorial average where wind speed is set equal to 1) for wind direction.

1.3 Data Description

1.3.1 Description of Data Symbols

Symbols used on the data sheets are:

CA	Calibration
MT	Maintenance (changing paper, tape, filters)
FO	Flame out (on the gas chromatographs)
IM	Instrument malfunction
PF	Power failure (generator failure, power outages)
RF	Recording system failure (chart jams, runs out, tape cassette fails, on-site computer goes down)
LI	Local interference (Car nearby, contamination by generator)
OS	Off scale (at top of chart data valve greater than range of instrument)
SE	Special experiment (instrument off-line for bag sample analysis or removed for special measurements in area.
VA	Variable wind direction
IN	Interference (CO_2 interference on sulfur data, SO_2 inteference in oxidant readings)
NV	Not visible (data not visible, within range of instrument/recorder; data presumed monitored)

See the attached example sheets.

1.3.2 Data Acceptance Algorithm

The EA chart recorder logs data once every 2-1/2 minutes giving about 24 values per hour. Strip chart data is considered to represent the hour if more than 30 minutes of the record is valid.

Data collected in the first 15 minutes after calibration is generally discarded. Data is considered erroneous if any of the status indication or the station log suggests instrument malfunctioning. In addition, air quality data collected in the first 15 minutes after a brief power outage (less than

10 minutes), in the first hour after a medium duration outage (up to one hour), or in the first four hours after longer outages, will be discarded as unreliable. Any anomalous data reflecting signal spikes or dropouts with a response rate faster than ascribable to atmospheric phenomena (e.g., a tripling of NO_x levels from one scan to the next, followed by a return to the old level on the succeeding scan) will be deleted as an artifice caused by the system.

As an additional check, the calibrated data is also screened manually. First, data is scanned to detect extreme values. When a spurious value is located, it will be checked for its validity. In all cases when invalidated data is deleted, a record of these deletions is maintained. Only the validated data will be reported.

1.3.3 Data Precision and Lower Detection Limit

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
Air Quality				
SO_2	Meloy SA185-2A	10 μg/m^3	15 μg/m^3	15 μg/m^3
H_2S	Meloy SA185-2	6 μg/m^3	6μg/m^3	6 μg/m^3
NO	Monitor Labs 8440E	2 μg/m^3	5 μg/m^3	5 μg/m^3
NO_x	Monitor Labs 8400E	4 μg/m^3	5 μg/m^3	5 μg/m^3
NO_2	NO_x - NO	4 μg/m^3	6 μg/m^3	6 μg/m^3
THC	Bendix 8200	70 μg/m^3	70 μg/m^3	70 μg/m^3
CH_4	Bendix 8200	70 μg/m^3	70 μg/m^3	70 μg/m^3
NMHC	THC - CH_4	70 μg/m^3	90 μg/m^3	90 μg/m^3
CO	Bendix 8200	0.1 mg/m^3	0.1 mg/m^3	0.1 mg/m^3
O_3	Meloy OA 350-2	2 μg/m^3	20 μg/m^3	20 μg/m^3
TSP	GMWC-2000H	0.5 μg/m^3	6% or 1 μg/m^3*	1 μg/m^3
Meteorology				
Wind Speed	MRI 1074-2 (Site 023, 10m, 30m, 60m)	0.5 m/s	1% or 1 m/s*	1 m/s
	MRI 1071 (Site 042, 056)	0.5 m/s	2% or 1 m/s*	1 m/s
	Weathermeasure W1034 (Site 020)	0.5 m/s	1% or 1 m/s*	1 m/s
Wind Direction	MRI 1074-2 (Site 023, 10m,30m,60m)	N/A	1%	N/A
	MRI 1071 (Site 042, 056)	N/A	5°	N/A

Parameter	Instrument	Instrument Lower Detection Limit	Data Precision	Lower Limit of Data Validity
Meteorology (Cont'd)				
Wind Direction	Weathermeasure W1034 (Site 020)	N/A	1°	N/A
Temperature	MRI 840 (Site 023)	-50°C	1°C	-50°C
	MRI 1071 (Site 042,056)	-35°C	1°C	-35°C
Delta Temperature	MRI 840	N/A	0.2°C	N/A
Relative Humidity	Weathermeasure H324-S	3%	1% (20-80%) 3% (at extremes)	3%
Barometric Pressure	Weathermeasure B 242	462 mm Hg	1 mm Hg	462 mm Hg
Solar Radiation	Eppley Spectral Pyranometer	0.05 cal/cm^2/min	0.05 cal/cm^2/min	0.05 cal/cm^2/min
Mixing Height Inversion Height Stability Type	AV 300A Acoustic Radar	30 m	10 m	30 m

*whichever is greater

1.3.4 AV Nomenclature for Components

Abbreviation (alphabetical order)	Component
BARP	Barometric Pressure
CH4	Methane
CO	Carbon Monoxide
DT2	Delta T#2 (Temperature at 60 m - Temperature at 10 m)
HC	Hydrocarbons (corrected for methane)
H2S	Hydrogen Sulfide
INV	Invension Height
MIX	Mixing Height
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOX	Oxides of Nitrogen
O3	Ozone
PART	Particulates (24 hour average)
RH1	Relative Humidity at level 1 (1 m/3 ft.)
SOLR	Solar Radiation (sky only)
SO2	Sulfur Dioxide
STB1	Stability Type at level 1 (50 m)
STB2	Stability Type at level 2 (200 m)
TEM2	Temperature at level 2 (10 m/30 ft.)
TEM3	Temperature at level 3 (30 m/100 ft.)
TEM4	Temperature at level 4 (60 m/200 ft.)
THC	Total Hydrocarbons
WD2	Wind Direction at level 2 (10 m/30 ft.)
WD3	Wind Direction at level 3 (30 m/100 ft.)
WD4	Wind Direction at level 4 (60 m/200 ft.)
WS2	Wind Speed at level 2 (10 m/30 ft.)
WS3	Wind Speed at level 3 (30 m/100 ft.)
WS4	Wind Speed at level 4 (60 m/200 ft.)

SECTION 2.0

REPORTS

DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 20

MAY, 1978

AEROVIRONMENT INC.

```
***********************
*                     *
*     FINAL DATA      *
*  AS OF 08/AUG/78    *
*                     *
***********************
```

DAY	WS1	WD1	MIX	STB1	INV	STB2
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	10	10	10	10
4	0	1	24	24	24	24
5	0	2	18	18	16	18
6	0	3	6	6	6	6
7	0	5	18	18	18	18
8	0	8	12	12	12	12
9	0	0	10	10	10	10
10	0	1	0	0	0	0
11	0	1	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	14	14	14	14
16	0	0	16	16	16	16
17	0	0	12	12	12	12
18	0	0	0	0	0	0
19	0	0	0	0	0	0
20	0	2	0	0	0	0
21	0	0	0	0	0	0
22	0	6	0	0	0	0
23	0	15	0	0	0	0
24	0	11	0	0	0	0
25	0	7	0	0	0	0
26	0	0	0	0	0	0
27	0	0	0	0	0	0
28	0	0	0	0	0	0
29	11	0	6	6	6	6
30	9	0	6	6	6	6
31	0	8	8	8	8	8
TT	20	70	160	160	158	160
%EFF	97	90	78	78	78	78

AQDTR (05 APR 78)

10070

DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

```
**********************
*                    *
*     FINAL DATA     *
*  AS OF 08/AUG/78   *
*                    *
**********************
```

DAY	BARP	CH4	CO	DT2	H2S	NO	NOX	O3
1	0	8	8	24	0	0	0	0
2	0	24	24	24	0	0	0	0
3	0	24	24	24	0	0	0	0
4	0	24	24	24	0	0	0	0
5	0	9	9	24	0	0	0	0
6	0	0	0	24	0	0	0	0
7	0	0	0	24	0	0	0	0
8	0	0	0	24	0	0	0	0
9	0	0	0	24	6	0	0	0
10	5	5	5	24	0	5	5	5
11	0	0	0	24	0	0	0	0
12	0	0	0	24	0	0	0	0
13	0	0	0	24	0	0	0	0
14	0	0	0	24	0	0	0	0
15	0	3	3	24	0	0	0	0
16	0	0	0	24	0	0	0	0
17	0	0	0	24	0	0	0	0
18	0	0	0	24	0	0	0	0
19	0	0	0	24	0	0	0	0
20	0	0	0	24	0	0	0	0
21	0	0	0	24	0	0	0	0
22	0	0	0	24	0	0	0	0
23	0	0	0	24	0	0	0	0
24	0	0	0	24	0	0	0	0
25	0	0	0	24	0	0	0	0
26	0	0	0	24	0	0	0	0
27	0	5	5	24	0	0	0	0
28	0	24	24	24	0	0	0	0
29	0	24	24	24	0	0	0	0
30	0	14	14	24	0	0	0	0
31	0	0	0	24	0	0	0	0
TT	5	164	164	744	6	5	5	5
%EFF	99	77	77	0	99	99	99	99

AQDTR (05 APR 78)

DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

C-B OIL SHALE PROJECT, COLORADO
SITE 23
MAY, 1978
AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 08/AUG/78   *
*                    *
**********************
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DAY	RH1	SO2	TEM2	THC	WD2	WD3	WD4	WS2	WS3	WS4
1	0	0	0	8	0	0	0	0	0	0
2	0	0	0	24	0	0	0	0	0	0
3	0	0	0	24	0	0	0	0	0	0
4	0	0	0	24	0	0	0	0	0	0
5	0	0	0	9	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	2	1	0	2	0	0
8	0	0	0	0	7	6	0	7	0	0
9	0	0	0	0	0	0	0	0	0	0
10	0	5	0	5	0	0	0	0	0	0
11	0	0	0	6	0	0	0	0	0	0
12	0	0	0	13	0	0	0	0	0	0
13	0	0	0	24	0	0	0	0	0	0
14	0	0	0	24	0	0	0	0	0	0
15	0	0	0	13	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0
17	0	0	1	0	0	2	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0
19	2	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	10	0	1	10	10	10	10	10
24	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0
27	0	0	0	5	0	0	0	0	0	0
28	0	0	0	24	0	0	0	0	0	0
29	0	0	0	24	0	0	0	0	0	0
30	0	0	0	14	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0
TT	2	5	11	241	10	19	10	19	10	10
%EFF	99	99	98	67	98	97	98	97	98	98

AQDTR (05 APR 78)

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DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                   C-B OIL SHALE PROJECT, COLORADO    **********************
                                                                      *                    *
                                   SITE  42                           *     FINAL DATA     *
                                                                      *  AS OF 08/AUG/78   *
                                   MAY, 1978                          *                    *
                                                                      **********************
                                   AEROVIRONMENT INC.



                             DAY  WS1  WD1  TEM1

                               1   24   24   24
                               2   24   24   24
                               3   24   24   24
                               4   24   24   24
                               5   24   24   24
                               6   24   24   24
                               7   24   24   24
                               8   24   24   24
                               9   24   24   24
                              10    9    9    9
                              11   22   22   22
                              12   24   24   24
                              13   24   24   24
                              14   24   24   24
                              15   17   17   17
                              16   24   24   24
                              17   24   24   24
                              18   13   13   13
                              19    0    0    0
                              20   16   16   16
                              21   24   24   24
                              22    9    9   24
                              23   12   12   14
                              24    0    0    0
                              25    0    0    0
                              26    0    0    0
                              27    0    0    0
                              28    0    0    0
                              29    0    0    0
                              30    0    0    0
                              31    0    0    0

                              TT  458  458  475

                            %EFF   38   38   36

AUDTR  (05 APR 78)
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DOWNTIME HOURS AND PERCENT EFFICIENCY REPORT

                                   C-B OIL SHALE PROJECT, COLORADO     **********************
                                                                       *                    *
                                   SITE   56                           *     FINAL DATA     *
                                                                       *  AS OF 06/AUG/78   *
                                   MAY, 1978                           *                    *
                                                                       **********************
                                   AEROVIRONMENT INC.



                      DAY  WS1  WD1  TEM1


                        1    4    4    4
                        2    0    0    0
                        3    0    0    0
                        4    1    1    1
                        5    8    8    8
                        6    0    0    0
                        7    2    0    2
                        8    8    1    9
                        9    0    0    0
                       10    0    0    0
                       11    0    0    0
                       12    0    0    0
                       13    0    0    0
                       14    0    0    0
                       15    0    0    0
                       16    0    0    0
                       17    0    0    0
                       18    3    3    0
                       19    0    0    0
                       20    0    0    0
                       21    0    0    0
                       22    0    0    0
                       23    0    0    0
                       24    0    0    0
                       25    0    0    0
                       26    0    0    0
                       27    0    0    0
                       28    0    0    0
                       29    0    0    0
                       30    0    0    0
                       31  (  ) (  ) (  )

                       TT   26   17   24

                     %EFF   95   96   95

AUDTR  (05 APR 78)
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STABILITY CLASS REPORT                                                                                    PAGE:  1
STABILITY DETERMINED FROM
DELTA T #2 (TEMP @60M - TEMP @10M)
                                                              C-8 OIL SHALE PROJECT, COLORADO       *********************
                                                                                                    *                   *
                                                              SITE   23                             *    FINAL DATA     *
                                                                                                    *  AS OF 08/AUG/78  *
                                                              MAY, 1978                             *                   *
                                                                                                    *********************
                                                              AEROVIRONMENT INC.


                                         CLOCK HOUR   (LOCAL STANDARD TIMES)


DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

  1 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
  2 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
  3 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
  4 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
  5 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
  6 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
  7 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
  8 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
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 10 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 11 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 12 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
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 14 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 15 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 16 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 17 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 18 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 19 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 20 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 21 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 22 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 23 (IM)  (IM)  (IM)  (IM)  (IM)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (RF)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 24 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
 25 (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)  (IM)
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 *  INDICATES STABILITY CLASS WITHOUT THE WIND SPEED VALUE

AQSCR  (05 APR 78)                                                                   WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                              PAGE:   2
STABILITY DETERMINED FROM
DELTA T #2 (TEMP @60M - TEMP @10M)
                                                            C-B OIL SHALE PROJECT, COLORADO       **********************
                                                                                                  *                    *
                                                            SITE   23                             *     FINAL DATA     *
                                                                                                  *  AS OF 08/AUG/78   *
                                                            MAY, 1978                             *                    *
                                                                                                  **********************
                                                            AEROVIRONMENT INC.


                                            HOURLY WIND SPEED AND DIRECTION FOR
                                                   STABILITY CLASS  A
                                            CLOCK HOUR   (LOCAL STANDARD TIMES)

DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

  1 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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 11 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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 12 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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 13 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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 14 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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  AQSCR  (05 APR 78)                                                                  WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                                      PAGE:   3
STABILITY DETERMINED FROM
DELTA T #2 (TEMP @60M - TEMP @10M)                              C-8 OIL SHALE PROJECT, COLORADO             *********************
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                                                                SITE   23                                   *    FINAL DATA     *
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                                                                MAY, 1978                                   *                   *
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                                                                AEROVIRONMENT INC.


                                              HOURLY WIND SPEED AND DIRECTION FOR
                                                     STABILITY CLASS  A
                                              CLOCK HOUR   (LOCAL STANDARD TIMES)

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STABILITY CLASS REPORT
STABILITY DETERMINED FROM
DELTA T #2 (TEMP @60M - TEMP @10M)
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                                                C-B OIL SHALE PROJECT, COLORADO         **********************
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                                                AEROVIRONMENT INC.


                                  HOURLY WIND SPEED AND DIRECTION FOR
                                          STABILITY CLASS  B
                                  CLOCK HOUR   (LOCAL STANDARD TIMES)

DAY  00  01  02  03  04  05  06  07  08  09  10  11  12  13  14  15  16  17  18  19  20  21  22  23

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AQSCR  (05 APR 78)                                                 WIND SPEED: M/S
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STABILITY CLASS REPORT                                                                                    PAGE:   5
STABILITY DETERMINED FROM
DELTA T #2 (TEMP @60M - TEMP @10M)
                                                            C-B OIL SHALE PROJECT, COLORADO     **********************
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                                                            MAY, 1978                           *                    *
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                                                            AEROVIRONMENT INC.


                                         HOURLY WIND SPEED AND DIRECTION FOR
                                                STABILITY CLASS  B
                                         CLOCK HOUR   [LOCAL STANDARD TIMES]

DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

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STABILITY CLASS REPORT
STABILITY DETERMINED FROM
DELTA T #2 (TEMP @60M - TEMP @10M)
                                               C-5 OIL SHALE PROJECT, COLORADO       **********************
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                                               AEROVIRONMENT INC.


                                   HOURLY WIND SPEED AND DIRECTION FOR
                                           STABILITY CLASS  C
                                   CLOCK HOUR   (LOCAL STANDARD TIMES)

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     STABILITY CLASS REPORT
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     DELTA T #2 (TEMP @60M - TEMP @10M)
                                                     C-B OIL SHALE PROJECT, COLORADO     *********************
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                                                     AEROVIRONMENT INC.


                                        HOURLY WIND SPEED AND DIRECTION FOR
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                                        CLOCK HOUR    (LOCAL STANDARD TIMES)


DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

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STABILITY CLASS REPORT                                                                              PAGE:  8
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DELTA T #2 (TEMP @60M - TEMP @10M)
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                                    HOURLY WIND SPEED AND DIRECTION FOR
                                             STABILITY CLASS  D
                                    CLOCK HOUR   [LOCAL STANDARD TIMES]


DAY  00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

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STABILITY CLASS REPORT                                                                     PAGE:  9
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     STABILITY CLASS REPORT
     STABILITY DETERMINED FROM
     DELTA T #2 (TEMP @60M - TEMP @10M)                                                                   PAGES  10

                                                                         C-B OIL SHALE PROJECT, COLORADO   **********************
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                                                                         SITE   23                         *     FINAL DATA     *
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                                                                         AEROVIRONMENT INC.


                                                     HOURLY WIND SPEED AND DIRECTION FOR
                                                            STABILITY CLASS  E
                                                     CLOCK HOUR    (LOCAL STANDARD TIME)

DAY   00    01    02    03    04    05    06    07    08    09    10    11    12    13    14    15    16    17    18    19    20    21    22    23

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STABILITY CLASS REPORT                                                                         PAGE: 11
STABILITY DETERMINED FROM
DELTA T #2 (TEMP @60M - TEMP @10M)
                                                     C-B OIL SHALE PROJECT, COLORADO      *********************
                                                                                          *                   *
                                                     SITE   23                            *     FINAL DATA    *
                                                                                          *  AS OF 08/AUG/78  *
                                                     MAY, 1978                            *                   *
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                                                     AEROVIRONMENT INC.


                                     HOURLY WIND SPEED AND DIRECTION FOR
                                           STABILITY CLASS  E
                                     CLOCK HOUR   (LOCAL STANDARD TIMES)

DAY  00  01  02  03  04  05  06  07  08  09  10  11  12  13  14  15  16  17  18  19  20  21  22  23

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STABILITY CLASS REPORT                                                                                   PAGE  12
STABILITY DETERMINED FROM
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                                        HOURLY WIND SPEED AND DIRECTION FOR
                                                 STABILITY CLASS  F
                                        CLOCK HOUR    (LOCAL STANDARD TIMES)


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 13 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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AQSCR  (05 APR 78)                                                                    WIND SPEED: M/S
```

```
STABILITY CLASS REPORT                                                                       PAGE: 13
STABILITY DETERMINED FROM
DELTA T #2 (TEMP @60M - TEMP @10M)
                                                   C-B OIL SHALE PROJECT, COLORADO        **********************
                                                                                          *                    *
                                                   SITE   23                              *     FINAL DATA     *
                                                                                          *  AS OF 08/AUG/78   *
                                                   MAY, 1978                              *                    *
                                                                                          **********************
                                                   AEROVIRONMENT INC.


                                       HOURLY WIND SPEED AND DIRECTION FOR
                                                STABILITY CLASS  F
                                       CLOCK HOUR   (LOCAL STANDARD TIMES)


DAY   00   01   02   03   04   05   06   07   08   09   10   11   12   13   14   15   16   17   18   19   20   21   22   23

 17 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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 23 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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 24 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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 25 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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 27 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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 29 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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 31 [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
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  AGSCH  (05 APR 78)                                                        WIND SPEED: M/S
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                    PAGE:   1

                                                C-3 OIL SHALE PROJECT, COLORADO      ********************
                                                                                     *                  *
                                                SITE   20                            *    FINAL DATA    *
                                                                                     *  AS OF 21/AUG/78 *
                                                MAY, 1978                            *                  *
                                                                                     ********************
                                                AEROVIRONMENT INC.


COMPONENT                  AVE TIME  RANK  DAY  HOUR(BEG)  VALUE     UNITS      WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                   LST                             10M                    10M

PARTICULATES (24 HR. AVG)
                            24 HR      1    24     00      33.8   UGM/ M**3          4       M/S          (IM)      DEG
                                       2    15     00      24.7   UGM/ M**3          4       M/S          140       DEG
                                       3    30     00      23.7   UGM/ M**3       (IM)       M/S          245       DEG
                                       4    27     00      19.9   UGM/ M**3          2       M/S          160       DEG
                                       5     3     00      10.3   UGM/ M**3          3       M/S          230       DEG
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                          PAGE:   1

                                                          C-B OIL SHALE PROJECT, COLORADO       **********************
                                                                                                *                    *
                                                          SITE   23                             *    FINAL DATA      *
                                                                                                *  AS OF 10/AUG/78   *
                                                          MAY, 1978                             *                    *
                                                                                                **********************
                                                          AEROVIRONMENT INC.


COMPONENT                        AVE TIME  RANK  DAY  HOUR(BEG)  VALUE    UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                         LST                            10M                 10M

CARBON MONOXIDE
                                  01 HR      1    27     08       3.0   MGM/ M**3        1       M/S         300       DEG
                                             2    30     23       1.9   MGM/ M**3        9       M/S           0       DEG
                                             3    19     14       1.8   MGM/ M**3        4       M/S         350       DEG
                                             4    30     20       1.8   MGM/ M**3        5       M/S           0       DEG
                                             5    30     21       1.8   MGM/ M**3        4       M/S         340       DEG
                                  08 HR      1    30     18       1.6   MGM/ M**3        6       M/S         140       DEG
                                             2    19     14       1.4   MGM/ M**3        4       M/S         175       DEG
                                             3    20     14       1.3   MGM/ M**3        3       M/S         190       DEG
                                             4    27     06       1.1   MGM/ M**3        3       M/S         260       DEG
                                             5    31     02       1.1   MGM/ M**3        3       M/S         250       DEG
PARTICULATES (24 HR. AVG)
                                  24 HR      1    27     00      28.7   UGM/ M**3        3       M/S         215       DEG
                                             2    24     00      28.0   UGM/ M**3        8       M/S         185       DEG
                                             3    30     00      22.2   UGM/ M**3        5       M/S         240       DEG
                                             4    12     00      18.0   UGM/ M**3        3       M/S         275       DEG
                                             5    18     00      13.9   UGM/ M**3        4       M/S         205       DEG
HYDROCARBONS (CORRECTED FOR CH4)
                                  03 HR      1    25     06      1332   UGM/ M**3        4       M/S         240       DEG
                                             2    26     06      1179   UGM/ M**3        2       M/S         110       DEG
                                             3    27     06      1092   UGM/ M**3        1       M/S         255       DEG
                                             4     1     06      1005   UGM/ M**3        1       M/S         170       DEG
                                             5    16     06       961   UGM/ M**3        6       M/S         200       DEG


  AQ18A  (22 APR 78)
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                          PAGE

                                                         C-B OIL SHALE PROJECT, COLORADO       *********************
                                                                                               *                   *
                                                         SITE   23                             *     FINAL DATA    *
                                                                                               *  AS OF 10/AUG/78  *
                                                         MAY, 1978                             *                   *
                                                                                               *********************
                                                         AEROVIRONMENT INC.


COMPONENT                     AVE TIME  RANK  DAY  HOUR(BEG)  VALUE     UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                      LST                            10M                  10M

SULFUR DIOXIDE
                               03 HR      1     1     00          0  UGM/ M**3          2      M/S          125       DEG
                                          2     1     03          0  UGM/ M**3          1      M/S          215       DEG
                                          3     1     06          0  UGM/ M**3          1      M/S          170       DEG
                                          4     1     09          0  UGM/ M**3          1      M/S          115       DEG
                                          5     1     12          0  UGM/ M**3          3      M/S          265       DEG
                               24 HR      1     1     00          0  UGM/ M**3          2      M/S          170       DEG
                                          2     2     00          0  UGM/ M**3          2      M/S          275       DEG
                                          3     3     00          0  UGM/ M**3          2      M/S          220       DEG
                                          4     4     00          0  UGM/ M**3          3      M/S          265       DEG
                                          5     5     00          0  UGM/ M**3          3      M/S          175       DEG
OZONE
                               01 HR      1    11     14        130  UGM/ M**3          9      M/S          235       DEG
                                          2    11     11        125  UGM/ M**3          6      M/S          235       DEG
                                          3    11     15        125  UGM/ M**3          6      M/S          285       DEG
                                          4    11     10        120  UGM/ M**3          7      M/S          205       DEG
                                          5    11     12        120  UGM/ M**3          6      M/S          235       DEG


 ADISA  [22 APR 78]
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FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                        PAGE:   1

                                                      C-B OIL SHALE PROJECT, COLORADO        **********************
                                                                                             *                    *
                                                      SITE    42                             *     FINAL DATA     *
                                                                                             *  AS OF 21/AUG/78   *
                                                      MAY, 1978                              *                    *
                                                                                             **********************
                                                      AEROVIRONMENT INC.



COMPONENT                       AVE TIME  RANK  DAY  HOUR(BEG)  VALUE    UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                        LST                           10M                10M

PARTICULATES (24 HR. AVG)
                                 24 HR      1    24     00       38.7  UGM/ M**3          7     M/S         180        DEG
                                            2    12     00       36.9  UGM/ M**3       (IM)     M/S        (IM)        DEG
                                            3    27     00       25.7  UGM/ M**3          3     M/S         175        DEG
                                            4    30     00       17.3  UGM/ M**3          4     M/S         235        DEG
                                            5     3     00       15.6  UGM/ M**3       (IM)     M/S        (IM)        DEG
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     FIVE MAXIMUM INDEPENDENT SLIDING AVERAGE                                                   PAGE:   1

                                                   C-B OIL SHALE PROJECT, COLORADO     ********************
                                                                                       *                  *
                                                   SITE   56                           *    FINAL DATA    *
                                                                                       *  AS OF 21/AUG/78 *
                                                   MAY, 1978                           *                  *
                                                                                       ********************
                                                   AEROVIRONMENT INC.



COMPONENT                    AVE TIME  RANK  DAY  HOUR(BEG)  VALUE     UNITS     WIND SPEED  UNITS  WIND DIRECTION  UNITS
                                                     LST                            10M                  10M


PARTICULATES (24 HR. AVG)
                             24 HR      1    24     00       39.9   UGM/ M**3      [IM]      M/S        [IM]         DEG
                                        2    30     00       24.0   UGM/ M**3      [IM]      M/S        [IM]         DEG
                                        3    15     00       21.8   UGM/ M**3         3      M/S         140         DEG
                                        4    27     00       19.4   UGM/ M**3      [IM]      M/S        [IM]         DEG
                                        5    12     00       16.2   UGM/ M**3         3      M/S         200         DEG
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DAILY AVERAGES SUMMARY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 20

MAY, 1978

AEROVIRONMENT INC.

FINAL DATA
AS OF 10/AUG/78

DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
(75% FOR TEMP AND REL HUMIDITY)

DAY	WS1 M/S 10M	WD1 DEG 10M	MIX M 0M	STB1 0=ST1=UN 50M	INV M 0M	STB2 0=ST1=UN 200M
1	2	170	30	1	200	1
2	2	190	50	0	220	1
3	3	230	*	1	*	1
4	3	265	*	*	*	*
5	2	275	*	*	*	*
6	2	170	*	1	*	1
7	2	195	*	*	*	*
8	2	190	*	1	*	1
9	3	135	*	1	*	1
10	4	175	*	1	*	1
11	4	230	30	1	190	1
12	3	220	30	1	150	1
13	3	160	30	1	140	1
14	4	155	30	1	120	1
15	4	140	*	*	*	*
16	5	205	*	*	*	*
17	2	230	*	1	*	1
18	2	155	30	0	180	1
19	3	205	30	0	*	1
20	3	150	30	1	130	1
21	4	110	30	1	110	1
22	3	160	30	1	180	1
23	4	*	30	1	160	1
24	5	190	*	1	*	1
25	4	165	*	1	*	1
26	3	140	30	1	160	1
27	2	160	*	1	*	1
28	3	205	*	1	*	1
29	3	175	*	1	*	1
30	3	245	*	1	*	1
31	2	175	*	1	*	1
AV	3	185	*	1	*	1

* INDICATES NOT ENOUGH DATA FOR AVERAGE

ADMAR (04 MAY 78)

DAILY AVERAGES SUMMARY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 10/AUG/78   *
*                    *
**********************
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DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
(75% FOR TEMP AND REL HUMIDITY)

DAY	NOX UGM/M**3	NO2 UGM/M**3	NO UGM/M**3	SO2 UGM/M**3	H2S UGM/M**3	O3 UGM/M**3	THC UGM/M**3	HC UGM/M**3	CH4 UGM/M**3	CO MGM/M**3
1	2	0	5	0	0	63	1744	856	889	.4
2	2	0	5	0	0	65	*	*	*	*
3	1	0	5	0	0	75	*	*	*	*
4	2	0	5	0	0	84	*	*	*	*
5	1	0	5	0	0	86	1384	428	956	.2
6	0	0	5	0	0	94	1605	658	947	.2
7	0	0	5	0	0	75	1635	661	975	.2
8	0	0	5	0	0	78	1561	617	945	.2
9	0	0	4	0	0	83	1570	620	950	.2
10	0	0	5	0	0	84	1408	510	900	.2
11	0	0	5	0	0	104	1420	524	885	.2
12	0	0	6	0	0	91	*	*	920	.2
13	0	0	6	0	0	77	*	*	898	.2
14	0	0	5	0	0	88	*	*	874	.2
15	0	0	6	0	0	99	*	*	904	.2
16	0	0	6	0	0	98	1728	732	996	.2
17	0	0	6	0	0	85	1400	505	895	.2
18	0	0	6	0	0	81	1469	608	861	.3
19	0	0	6	0	0	82	1475	592	883	.8
20	0	0	6	0	0	76	1736	854	882	1.1
21	0	0	6	0	0	74	1376	554	822	.9
22	0	0	6	0	0	81	1342	541	801	.5
23	0	0	6	0	0	92	1418	586	811	.2
24	0	0	6	0	0	91	1166	423	743	.3
25	0	0	6	0	0	93	1758	958	800	.4
26	0	0	6	0	0	85	1660	924	777	.3
27	0	0	6	0	0	83	1917	1193	724	.7
28	0	0	5	0	0	75	*	*	*	*
29	0	0	5	0	0	82	*	*	*	*
30	0	0	5	0	0	79	*	*	*	*
31	0	0	6	0	0	79	1807	1005	803	1.0
AV	0	0	5	0	0	83	1551	683	874	.4

* INDICATES NOT ENOUGH DATA FOR AVERAGE

AOMAR (04 MAY 78)

DAILY AVERAGES SUMMARY REPORT

C-B OIL SHALE PROJECT, COLORADO

SITE 23

MAY, 1978

AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 10/AUG/78   *
*                    *
**********************
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DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
(75% FOR TEMP AND REL HUMIDITY)

DAY	WS2 M/S 10M	WD2 DEG 10M	WS3 M/S 30M	WD3 DEG 30M	WS4 M/S 60M	WD4 DEG 60M
1	2	170	2	210	2	190
2	2	275	3	270	3	275
3	2	220	3	250	3	265
4	3	265	3	275	3	280
5	3	175	3	235	3	215
6	3	200	4	220	4	195
7	2	225	3	215	3	225
8	3	135	3	225	3	220
9	3	180	4	175	3	190
10	5	220	7	215	7	210
11	5	240	6	235	7	245
12	3	275	3	280	4	290
13	3	180	4	170	4	195
14	4	185	5	185	6	205
15	5	195	6	185	7	195
16	6	240	7	230	7	235
17	2	240	3	240	2	265
18	4	205	4	210	5	215
19	3	230	3	215	3	255
20	2	225	3	210	3	250
21	4	140	4	145	4	160
22	4	165	4	170	5	185
23	7	180	7	190	8	190
24	8	185	7	190	8	195
25	6	195	6	195	6	195
26	4	185	4	195	4	205
27	4	215	3	215	3	205
28	3	220	3	250	3	265
29	4	180	4	180	5	185
30	4	240	4	280	5	270
31	3	215	3	210	3	210
AV	4	205	4	215	4	220

* INDICATES NOT ENOUGH DATA FOR AVERAGE

AQMAR (04 MAY 78)

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DAILY AVERAGES SUMMARY REPORT

                                   C-B OIL SHALE PROJECT, COLORADO       **********************
                                                                         *                    *
                                   SITE   23                             *     FINAL DATA     *
                                                                         *  AS OF 10/AUG/78   *
                                   MAY, 1978                             *                    *
                                                                         **********************
                                   AEROVIRONMENT INC.


               DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                              (75% FOR TEMP AND REL HUMIDITY)

               DAY    TEM2      RH1       BARP      DT2
                      DEGC     PER      MM  HG     DEGC
                       10M       1M        0M        0M

                 1       4       78       585         *
                 2       6       68       587         *
                 3       7       61       585         *
                 4       3       59       582         *
                 5      -1       78       581         *
                 6       0       64       582         *
                 7       0       81       587         *
                 8       3       68       591         *
                 9       7       43       591         *
                10      12       32       588         *
                11      12       38       588         *
                12       7       44       595         *
                13      14       31       594         *
                14      18       26       591         *
                15      19       24       588         *
                16      13       32       584         *
                17       1       82       587         *
                18       6       56       590         *
                19      10       44       593         *
                20      12       50       592         *
                21      10       70       592         *
                22      13       50       589         *
                23       *       26       586         *
                24      13       24       586         *
                25      12       25       587         *
                26      12       32       588         *
                27      10       51       588         *
                28      11       50       590         *
                29      13       37       588         *
                30      11       41       586         *
                31       8       46       587         *

                AV       9       49       588         *


      * INDICATES NOT ENOUGH DATA FOR AVERAGE
AOMAR  (04 MAY 78)
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DAILY AVERAGES SUMMARY REPORT

                                           C-B OIL SHALE PROJECT, COLORADO      **********************
                                                                                *                    *
                                           SITE    42                           *     FINAL DATA     *
                                                                                *  AS OF 10/AUG/78   *
                                           MAY, 1978                            *                    *
                                                                                **********************
                                           AEROVIRONMENT INC.


                         DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                        (75% FOR TEMP AND REL HUMIDITY)

                            DAY    WS1        WD1        TEM1
                                   M/S        DEG        DEGC
                                      10M        10M        10M

                              1       *          *          *
                              2       *          *          *
                              3       *          *          *
                              4       *          *          *
                              5       *          *          *
                              6       *          *          *
                              7       *          *          *
                              8       *          *          *
                              9       *          *          *
                             10       6        235          *
                             11       *          *          *
                             12       *          *          *
                             13       *          *          *
                             14       *          *          *
                             15       *          *          *
                             16       *          *          *
                             17       *          *          *
                             18       *          *          *
                             19       2        215          8
                             20       *          *          *
                             21       *          *          *
                             22       5        175          *
                             23       5        130          *
                             24       7        180         13
                             25       5        155         12
                             26       4        160          9
                             27       3        175          9
                             28       3        190          9
                             29       4        175         13
                             30       4        235         10
                             31       3        200          6

                             AV       *          *          *

          * INDICATES NOT ENOUGH DATA FOR AVERAGE
AQMAR   (04 MAY 78)
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DAILY AVERAGES SUMMARY REPORT                    C-B OIL SHALE PROJECT, COLORADO          *********************
                                                                                          *                   *
                                                 SITE    56                               *     FINAL DATA    *
                                                                                          *  AS OF 10/AUG/78  *
                                                 MAY, 1978                                *                   *
                                                                                          *********************
                                                 AEROVIRONMENT INC.



                                  DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)
                                                 (75% FOR TEMP AND REL HUMIDITY)

                                      DAY      WS1         WD1       TEM1
                                              M/S         DEG        DEGC
                                                10M         10M        10M

                                        1        2         165          2
                                        2        2         225          3
                                        3        2         205          5
                                        4        3         235          2
                                        5        3         235          *
                                        6        2         120         -2
                                        7        2         180         -2
                                        8        3         155          *
                                        9        2         135          3
                                       10        3         165         11
                                       11        3         195          9
                                       12        3         200          5
                                       13        2         155         10
                                       14        3         150         14
                                       15        3         140         14
                                       16        4         190         12
                                       17        2         195         -1
                                       18        2         155          4
                                       19        2         185          6
                                       20        2         180         10
                                       21        2         100          9
                                       22        3         135         11
                                       23        3         145          *
                                       24      [  ]       [  ]       [  ]
                                       25      [  ]       [  ]       [  ]
                                       26      [  ]       [  ]       [  ]
                                       27      [  ]       [  ]       [  ]
                                       28      [  ]       [  ]       [  ]
                                       29      [  ]       [  ]       [  ]
                                       30      [  ]       [  ]       [  ]
                                       31      [  ]       [  ]       [  ]

                                       AV        3         170          *

        * INDICATES NOT ENOUGH DATA FOR AVERAGE
AQMAR  [04 MAY 78]
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VECTORIAL AVERAGE WIND SPEED AND DIRECTION
                     (M/S)      (DEGREES)

                                    C-B OIL SHALE PROJECT, COLORADO         ********************
                                                                            *                  *
                                    SITE   20                               *    FINAL DATA    *
                                                                            * AS OF 10/AUG/78  *
                                    MAY, 1978                               *                  *
                                                                            ********************
                                    AEROVIRONMENT INC.


                        DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)


                              DAY  WS1  WD1
                                   10M  10M

                               1    0    15
                               2    1   310
                               3    1   305
                               4    2   315
                               5    2   335
                               6    1   175
                               7    1   255
                               8    1    10
                               9    3   140
                              10    3   180
                              11    3   260
                              12    2   295
                              13    2   160
                              14    3   165
                              15    3   150
                              16    1   230
                              17    0   305
                              18    1   175
                              19    1   330
                              20    1   120
                              21    3   110
                              22    2   165
                              23    *     *
                              24    6   190
                              25    4   170
                              26    2   160
                              27    1   185
                              28    0   325
                              29    2   150
                              30    3   315
                              31    1   315

                              AV    1   180

         * INDICATES NOT ENOUGH DATA FOR AVERAGES
ADMVR   (04 MAY 78)
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VECTORIAL AVERAGE WIND SPEED AND DIRECTION
(M/S) (DEGREES)

C-B OIL SHALE PROJECT, COLORADO
SITE 23
MAY, 1978
AEROVIRONMENT INC.

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**********************
*                    *
*     FINAL DATA     *
*  AS OF 10/AUG/78   *
*                    *
**********************
```

DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)

DAY	WS2 10M	WD2 10M	WS3 30M	WD3 30M	WS4 60M	WD4 60M
1	0	250	0	345	0	325
2	2	310	2	305	2	310
3	1	345	2	335	2	345
4	2	320	2	320	3	320
5	2	5	3	350	3	355
6	3	205	4	195	4	200
7	1	325	1	300	1	295
8	1	335	2	330	1	305
9	2	200	3	195	3	200
10	5	215	6	210	6	215
11	4	250	5	240	6	245
12	2	310	2	295	2	295
13	2	205	3	195	3	210
14	4	210	5	200	6	210
15	5	200	6	185	7	200
16	3	230	4	220	4	230
17	1	240	1	260	1	275
18	4	200	4	205	5	215
19	2	335	2	335	2	340
20	0	275	0	210	1	235
21	3	140	3	145	3	160
22	3	185	4	185	4	195
23	7	185	6	190	8	190
24	7	190	7	190	8	195
25	6	190	6	190	6	195
26	3	205	3	205	4	210
27	1	235	1	245	1	280
28	2	325	2	320	2	315
29	4	210	3	210	4	215
30	3	325	3	325	3	325
31	2	345	2	350	2	355
AV	2	200	3	210	3	215

* INDICATES NOT ENOUGH DATA FOR AVERAGES
AOMVR (04 MAY 78)

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VECTORIAL AVERAGE WIND SPEED AND DIRECTION
                   (M/S)      (DEGREES)

                                          C-B OIL SHALE PROJECT, COLORADO        ***********************
                                                                                 *                     *
                                          SITE    42                             *      FINAL DATA     *
                                                                                 *   AS OF 10/AUG/78   *
                                          MAY, 1978                              *                     *
                                                                                 ***********************
                                          AEROVIRONMENT INC.


                        DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)


                                 DAY  WS1  WD1
                                      10M  10M


                                   1    *    *
                                   2    *    *
                                   3    *    *
                                   4    *    *
                                   5    *    *
                                   6    *    *
                                   7    *    *
                                   8    *    *
                                   9    *    *
                                  10    6  230
                                  11    *    *
                                  12    *    *
                                  13    *    *
                                  14    *    *
                                  15    *    *
                                  16    *    *
                                  17    *    *
                                  18    *    *
                                  19    1  355
                                  20    *    *
                                  21    *    *
                                  22    4  200
                                  23    4  155
                                  24    6  195
                                  25    4  190
                                  26    2  195
                                  27    1  215
                                  28    1  325
                                  29    2  220
                                  30    2  300
                                  31    1  320

                                  AV    *    *


        * INDICATES NOT ENOUGH DATA FOR AVERAGES
AGMVR   [04 MAY 78]
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VECTORIAL AVERAGE WIND SPEED AND DIRECTION
                     (M/S)      (DEGREES)

                                              C-8 OIL SHALE PROJECT, COLORADO       ***********************
                                                                                    *                     *
                                              SITE   56                             *     FINAL DATA      *
                                                                                    *   AS OF 10/AUG/78   *
                                              MAY, 1978                             *                     *
                                                                                    ***********************
                                              AEROVIRONMENT, INC.


                            DAILY AVERAGES (REQUIRE 50% MINIMUM AVERAGES)


                                   DAY  WS1  WD1
                                        10M  10M

                                     1    0    5
                                     2    1  290
                                     3    1  295
                                     4    2  315
                                     5    2  335
                                     6    1  135
                                     7    1  195
                                     8    1   30
                                     9    2  135
                                    10    2  180
                                    11    2  210
                                    12    1  340
                                    13    1  125
                                    14    3  160
                                    15    3  150
                                    16    1  220
                                    17    1  350
                                    18    2  170
                                    19    0   70
                                    20    1   40
                                    21    2   95
                                    22    2  145
                                    23    2  155
                                    24  [  ] [  ]
                                    25  [  ] [  ]
                                    26  [  ] [  ]
                                    27  [  ] [  ]
                                    28  [  ] [  ]
                                    29  [  ] [  ]
                                    30  [  ] [  ]
                                    31  [  ] [  ]

                                    AV    1  165

       * INDICATES NOT ENOUGH DATA FOR AVERAGES
AOMVR  [04 MAY 78]
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